THE UNITED STATES ARMY MEDICAL DEPARTMENT

JOURNAL

THE UNITED STATES ARMY NURSE CORPS

TRANSFORMING FOR A NEW CENTURY OF CARING

October – December 2011

Perspectives 1
MG David A. Rubenstein; COL Mustapha Debboun; Richard Burton

Army Nursing: Transforming for a New Century of Caring 4
MG (P) Patricia D. Horoho

Building the Army Nursing Campaign Plan 10
COL Susanne Clark; SGM Richard Brewer

Designing and Implementing the Army Nursing Leader Academy 18
COL (Ret) Kathleen Dunemn; COL Denise L. Hopkins-Chadwick; et al

Leader Development Transformation in the Army Nurse Corps 24
MAJ Tamara S. Funari; COL Kathleen Ford; COL Bruce A. Schoneboom

Human Capital Strategy: Talent Management 31
MAJ Michael Nagra

Transforming Army Nursing Support Services to Centers for Nursing Science and Clinical Inquiry 38
Lori A. Loan, PhD, RNC

Establishing a Methodology for Development and Dissemination of Nursing Evidence-Based Practice to Promote Quality Care 41
COL Carol J. Pierce

Nursing and En Route Care: History in Time of War 45
MAJ R. Scott Davis; COL Linda K. Connelly

Optimizing Wartime En Route Nursing Care in Operation Iraqi Freedom 51
MAJ Michael Nagra

Optimizing Performance in the Combat Casualty Continuum 59
Kathleen D. Martin, RN, MSN; Mary Ann Spott, MPA, MSIS; et al

Optimizing Nursing Care Delivery Systems in the Army: Back-to-Basics with Care Teams and Peer Feedback 65
COL Kathy Prue-Owens; LTC Miko Watkins; COL (Ret) Kelly A. Wolgast

Measuring Nursing Essential Contributions to Quality Patient Care Outcomes 74
COL (Ret) Kelly A. Wolgast; LTC Katherine Taylor; LTC Dawn Garcia; LTC Miko Watkins

Using Force Structure Analysis to Drive Transformation 82
COL Carol J. Pierce; COL Janice F. Nickie-Green

Precision Recruiting: Building the Optimal Army Nurse Corps 89
LTC Anthony J. Bohlin

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE **OCT 2011**	2. REPORT TYPE	3. DATES COVERED **00-10-2011 to 00-12-2011**
4. TITLE AND SUBTITLE **The United States Army Medical Department Journal. October-December 2011**		5a. CONTRACT NUMBER
		5b. GRANT NUMBER
		5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)		5d. PROJECT NUMBER
		5e. TASK NUMBER
		5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **US Army Medical Dept Center & School,2377 Greeley RD STE T,Fort Sam Houston,TX,78234-7584**		8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)
12. DISTRIBUTION/AVAILABILITY STATEMENT **Approved for public release; distribution unlimited**		
13. SUPPLEMENTARY NOTES		
14. ABSTRACT		
15. SUBJECT TERMS		

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**95**	

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18

THE UNITED STATES ARMY MEDICAL DEPARTMENT

JOURNAL

A Professional Publication of the AMEDD Community

Online issues of the *AMEDD Journal* are available at http://www.cs.amedd.army.mil/dasqaDocuments.aspx?type=1

October – December 2011 | **The Army Medical Department Center & School** | **PB 8-11-10/11/12**

LTG Eric B. Schoomaker
The Surgeon General
Commander, US Army Medical Command

MG David A. Rubenstein
Commanding General
US Army Medical Department Center and School

By Order of the Secretary of the Army:
Official:

JOYCE E. MORROW
Administrative Assistant to the Secretary of the Army

RAYMOND T. ODIERNO
General, United States Army
Chief of Staff

DISTRIBUTION: Special 1124401

The Army Medical Department Journal [ISSN 1524-0436] is published quarterly for The Surgeon General by the US Army Medical Dept Center & School, Journal Office, AHS CDD Bldg 4011, 2377 Greeley RD STE T, Fort Sam Houston, TX 78234-7584.

Articles published in *The Army Medical Department Journal* are listed and indexed in MEDLINE, the National Library of Medicine's premier bibliographic database of life sciences and biomedical information. As such, the *Journal*'s articles are readily accessible to researchers and scholars throughout the global scientific and academic communities.

CORRESPONDENCE: Manuscripts, photographs, official unit requests to receive copies, and unit address changes or deletions should be sent to the *Journal* at the above address. Telephone: (210) 221-6301, DSN 471-6301

DISCLAIMER: The *AMEDD Journal* presents clinical and nonclinical professional information to expand knowledge of domestic & international military medical issues and technological advances; promote collaborative partnerships among Services, components, Corps, and specialties; convey clinical and health service support information; and provide a peer-reviewed, high quality, print medium to encourage dialogue concerning healthcare initiatives.

Appearance or use of a commercial product name in an article published in the *AMEDD Journal* does not imply endorsement by the US Government.

Views expressed are those of the author(s) and do not necessarily reflect official US Army or US Army Medical Department positions, nor does the content change or supersede information in other Army Publications. The *AMEDD Journal* reserves the right to edit all material submitted for publication (see inside back cover).

CONTENT: Content of this publication is not copyright protected. Material may be reprinted if credit is given to the author(s).

OFFICIAL DISTRIBUTION: This publication is targeted to US Army Medical Department units and organizations, and other members of the medical community worldwide.

Perspectives

COMMANDER'S INTRODUCTION

MG David A. Rubenstein

Nothing endures but change.

When the Greek philosopher Heraclitus penned that contemplation some 2,500 years ago, he undoubtedly had no concept of its increasingly profound relevance across the centuries that followed. His world was simple, bounded by the limitations of travel and communication. However, even then he recognized the inevitability of change in all aspects of human endeavor.

Today, the phenomenon of change is unavoidable and inescapable. We are bombarded by information about its pace, its direction, its benefits, and, most important, its dangers. Every day we hear stories about the success enjoyed by institutions that recognize and adapt to change, and the stories of the failure of those that did not. Those institutions represent every type of organization and enterprise—religions, businesses, sports, education, and entire societies and civilizations, including their governments and militaries.

Of course the most absolute of adaptations involve those institutions that deal with life and death, of which there are no more important examples than the practice of medicine, and the military. It follows directly that military medicine must cope with the combined challenges posed by both environments, some related, some not. Additionally, military medical organizations must contend with outside challenges pertaining to their unique hybrid character; societal, political, and financial, just to name a few.

The Army Medical Department (AMEDD) charts a path between its incarnations. The AMEDD must respond to the ebb and flow of Army requirements, priorities, reorganizations, structural shifts, etc, as the military continually adjusts to the ever-changing nature of troubling trends and obvious threats to the nation. While this is occurring, the AMEDD must keep the highest level of medical competency, capability, sophistication, and skills within its ranks to ensure that the Army's Soldiers receive healthcare second to none. This is not only the nation's obligation to them as individuals, but healthy Warriors are absolutely essential to combat effectiveness.

Each component of the AMEDD constantly faces those twin challenges, and must analyze, project, plan, and execute to have the correct combination of skills in sufficient numbers in the right places to maintain that healthcare support. This issue of the *AMEDD Journal* is dedicated to the recent work of the Army Nurse Corps as it undertook just such a transformation in response to the rapidly evolving, significant changes in both the military and medical responsibilities of their profession.

I welcome MG (P) Patricia Horoho, the Chief of the Army Nurse Corps, to the pages of the *AMEDD Journal* to present her vision and guidance in the retooling of the Nurse Corps from top to bottom, not just structurally, but philosophically as well. Under her leadership, the Army Nurse Corps established the goals necessary to ensure it could achieve and maintain the highest standards of nursing care, not only for the military environment, but as professional nurses in any healthcare situation. The Nurse Corps then created a campaign plan to move it from here to there, a single, defined route to guide all the efforts required for such a transformation. The articles assembled in this issue cover the gamut of that work, including design of the campaign plan; the changes in professional training content and delivery; the methodologies to evaluate effectiveness and adapt accordingly; projecting the skills necessary to reach and maintain the standards of care, then getting the individuals with those skills to join the ranks as Army Nursing professionals.

As shown in the pages of this *AMEDD Journal*, the transformation of the Army Nurse Corps has been an enormous effort, the complexity of which demanded strong, focused central leadership and a dedicated, closely coordinated team effort among the senior leaders across Army Nursing. The Corps Chief and those leaders are to be congratulated for their significant accomplishment. Further, the AMEDD looks forward to the continued leadership of MG (P) Patty Horoho as she assumes the mantle and duties as The Surgeon General of the Army, and Commanding General of the Army Medical Command.

EDITORS' PERSPECTIVE

As mentioned by MG Rubenstein in his introduction, MG (P) Patricia Horoho opens this issue of the *AMEDD Journal* with a detailed description of the vision, concepts, planning, and execution of the transformation of the Army Nurse Corps under her leadership as Corps Chief. Her article provides excellent insight into the complexities involved in such an enterprise: the myriad of considerations, the level of detail, the challenges of inspiring and encouraging those who bring the necessary skills to the mission, and, most important, the establishment of priorities and adherence to the plan. The reader finishes this article with a solid understanding of the profession of Army Nursing, and what is required to sustain it.

The next 4 articles deal with different aspects of implementing the transformation. First, COL Susanne Clark and SGM Richard Brewer describe the process of developing the Campaign Plan to guide the process along a focused, carefully specified route to achieve the desired final outcome. Their article expands on the interrelationships of multiple factors, the detail, and the wide range of considerations that went into the planning before the process could even begin.

The Campaign Plan directed a thorough review of training programs for Army Nursing personnel. The article by COL (Ret) Kathleen Dunemn and her coauthors detail the process of review and revamp of the courses available, the means of delivery, and the expansion of resources attendant to the training process. The newly structured curricula and delivery methodology, now called the Army Nursing Leader Academy, is provided by the Department of Nursing Science at the AMEDD Center & School. The article is an excellent exploration of the details which must be considered in designing a training environment to support a professional throughout a military career.

Next, MAJ Tamara Funari and her coauthors have contributed an article explaining the Nurse Corps restructure of its approach to developing nurse leaders. As part of the Campaign Plan, the Nurse Corps had to implement the means by which it could "grow" a reservoir of adaptive, innovative, capable leaders to fill positions of responsibility across all operations and environments. The analysis and planning was extensive, and implementation involved significant initiatives in training and career options available to Army Nursing professionals.

The efficient management and use of the skills and talents of the people in an organization is essential to success. MAJ Michael Nagra has contributed an article describing the human capital management strategy within the Army Nurse Corps to identify, develop, and implement strategies to support the Corps' human capital goals. His article details the difficulties and complexities inherent in implementing a system which will provide skills and leadership at the right place, at the right time.

Dr Lori Loan's article describes the Nurse Corps' shift in the basic philosophy of care delivery from the expert-based practice approach, to a system-based care paradigm. In essence, the caregiver in the system-based care structure works within a system of interdependent healthcare resources to deliver the most advantageous and efficient patient care. This is the environment of military medicine, so the shift in Army Nursing's approach is timely and will be beneficial to both the patients and caregivers.

Among other things, system-based care depends on standardization of clinical practices such that all caregivers share the same guidelines for their approach to care. COL Carol Pierce's article discusses the foundation for such guidelines, the evidence-based practice model. In order to be effective, caregivers at all levels must be on board with this approach, and nursing schools and training institutions must teach the tenets of evidence-based care. Also, institutions must have the infrastructure to identify and evaluate care delivery practices, and develop (and advocate) those that are judged to be beneficial in improving patient outcomes. COL Pierce describes how the Army Nurse Corps has adjusted its organization, structures, and training to support implementation and growth of evidence-based nursing care practice guidelines throughout the Army healthcare system.

In their article, MAJ Scott Davis and COL Linda Connelly look at Army Nursing involvement with airborne en route care, developing their discussion from an historical perspective. Army nurses have been accompanying wounded Warriors in aircraft since World War II, but the bulk of that activity involved extended flights out of the combat theater, such as those flown by the Air Force evacuation flights today. It is surprising that, although helicopters have been flying battlefield wounded to medical care since the Korean War, and especially in Vietnam, the de facto

requirement for critical care trained nursing capability en route did not manifest itself until the current conflicts began in 2003, a topic which is further developed in the following article. MAJ Davis and COL Connelly have provided an interesting and illuminating article which further emphasizes the need for flexibility and adaptability in the provision of healthcare in the ever-changing world in which Army medicine must operate.

Transformation must be reactive to things happening in the dirty-boots world of combat theaters. MAJ Michael Nagra's article expands that new role for Army nurses discussed in the previous article—en route care—which resulted from the changes that Army medicine has made in the delivery of trauma care in the battlefield environment. Earlier surgical intervention (resuscitation and stabilization) in the chain of evacuation of the wounded has markedly improved survivability, but has also introduced an increased level of complexity in the onward transportation of these wounded. The seriously wounded patients are often critical, and must be transported with equipment and medication to maintain resuscitation and allow intervention if necessary. The combat medic or aeromedical crewman is not trained in such sophisticated practices, so increasingly, Army nurses have been pressed into service in en route care. MAJ Nagra discusses the disruptions in resource management this unavoidable requirement has caused, the steps taken in the field to minimize the impact and predict the requirement, as well as the capture of data to address the needed structural and staffing changes.

With the initiation of combat operations in Afghanistan in 2003, and later at an even larger scale in Iraq, the Army's Landstuhl Regional Medical Center in Germany found itself facing a significant increase in patients requiring sophisticated trauma care which had not been experienced in decades. As described by Kathleen Martin and her author team, it was immediately apparent that Landstuhl needed to initiate development of a trauma center in order to provide the resources and capabilities necessary to contend with the steady stream of critical trauma patients moving into and out of that facility. Their article is an excellent explanation of the process, the timelines, the resource commitments and management, and the continuous coordination and communication involved in driving a vitally needed capability from concept to reality.

Among the elements of nursing care receiving special emphasis as part of the transformation is the quality of the delivery of bedside care, and the integration of a formal, professional peer feedback process to enhance individual performance. COL Kathy Prue-Owens and her coauthors detail the implementation of the guidelines, procedures, and organization to, essentially, take a back-to-basics approach to patient care with the use of care teams and structured scheduling throughout the shifts. The article also describes the philosophy behind peer feedback, its value, and the approaches that are being implemented as part of the transformation of the Army Nurse Corps.

Inherent in the provision of quality nursing care is the ability to consistently match personnel resources to the needs of the patients. As described by COL Karen Gausman and her team, an element of information necessary to this ability is a standard classification of the patient's needs, the acuity and complexity of care. The article explains patient classification systems, how they are designed, how they are used, and how their utility is viewed by the users.

The Army Nurse Corps transformation is essentially an extremely complex personnel management task. As explained by COL Carol Pierce and COL Janice Nickie-Green, the personnel force structure is the foundation to turn all visions, concepts, and plans into capabilities and reality. Their excellent article is a primer on the Army's manpower planning and execution process, and how to organize to make optimum use of its requirements and functions. Indeed, force structure models and adjustments are a continuous process in reaction to the demands of changing military requirements.

LTC Anthony Bohlin closes this important issue of the *AMEDD Journal* with an informative article about the essential first step in any human resource management process—recruiting those people with the skills, intelligence, commitment, and personalities to provide the required capabilities. The AMEDD identifies specific skill requirements projected for the future, based on many factors, and sends those needs to the Medical Recruiting Brigade. These skill sets now become precision recruiting targets, the goal of which is to obtain trained, qualified personnel who will require minimal additional medical training. This is especially important to the Army Nurse Corps, where optimization of resources is an important goal of the transformation effort.

Army Nursing: Transforming for a New Century of Caring

MG (P) Patricia D. Horoho

Introduction

On October 28, 2008, Army Nursing senior leaders from around the world convened in San Antonio, TX, to finalize the premier Army Nursing Campaign Plan and begin the transformation of Army Nursing. The group of individuals included retired Army nurses, Army nurse clinical experts, Department of the Army civilian nurses, and noncommissioned officers, each selected for the experience and knowledgeable skill sets they could bring to bear on the campaign planning process. During the conference, Army Nursing's (AN) new motto was launched, as conceived by MAJ Jeremie Siegfried: "Embrace the Past, Engage the Present, Envision the Future." I selected this motto from the many that were submitted because it articulated my commitment to leveraging lessons learned from the past and from those who came before us, and harnessing innovation and technology from the present in order to shape the future of professional nursing.

Army Nursing's Operational Landscape

Today the nation remains engaged in an era of persistent conflict, a period of protracted confrontation against adversaries willing to use any and all means at their disposal to achieve their political and ideological ends. The wars that we are fighting in this new era are unlike any other in American history, wars in which military forces operating among the people will decide the outcome. In addition to meeting the demands of persistent conflict, the Army is undergoing its largest, most comprehensive transformation since World War II. It is midway through its transition to a modular force, capable of deploying and fighting and winning anywhere in the world. Meanwhile, throughout these seismic shifts, our Soldiers and their Families have displayed phenomenal personal courage and sacrificed heroically for the good of our nation. We are constantly striving to ensure Soldiers and their Families have everything they need to overcome the risks and challenges they will continue to face during this turbulent period.

Change is always difficult. It requires courage, often an illusive virtue, but a fundamental, essential component of nursing. Our transformation journey began at a time when the nursing shortage was a looming public health crisis that had the potential to erode access to and quality of military healthcare. This aspect of the operational environment has not changed. Specialty nurses, such as psychiatric and family nurse practitioners, are critical to meeting the increasing healthcare needs of our most vulnerable populations. We need competitive-edge strategies to attract and retain qualified nurses and nurse candidates from an increasingly diverse population. Also needed are healthcare delivery systems utilizing predictive models that can delineate required nursing capabilities and capacities. Current and future changes in nursing workload processes and requirements demand measurement systems that capture workload quality and quantity; promote nurse staffing models, and, by balancing standardization with innovative best practices, allow for measurement of nurse-sensitive patient outcomes.

During the mission analysis performed from 2008 to 2009, we noted differences in nursing care delivery models across care environments, for example, inpatient, outpatient, deployed care, and Warrior Transition Units. This practice variance limited our capability to reliably measure nurse-sensitive patient outcomes and codify best practices across Army Nursing, and had caused imbalances in nursing workload and workforce ratios across the Army

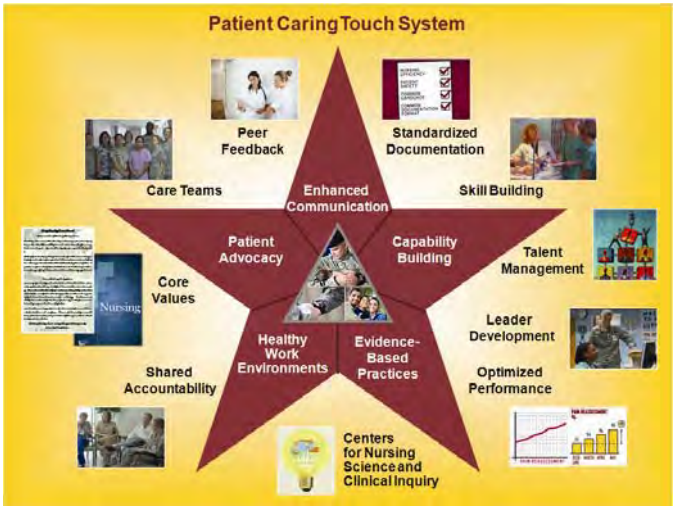
Medical Department (AMEDD). Further, an optimized, steady-state workforce was threatened by an inability to offer innovative, flexible career programs to promote nurse retention. Compounding the challenges was the lack of a leader succession plan and talent management strategy congruent with a force structure analysis that optimized clinical leader knowledge and skills necessary for a credible, sustainable Army Nursing organization. No corporate, cohesive nurse training blueprint existed that leveraged human capital asymmetric advantages such as a novice nurse's capability to innovate in complex, dynamic environments that could potentially mitigate gaps in technology and nursing capacity.

TDA-focused* Army Nurse Corps areas of concentration and additional skill identifiers were developed for a hospital-based environment in an era when the Army was downsizing and currently do not address new capability gaps exposed as a result of 9 years of war. In the fall of 2008, the sustained increased demand for Army nurses was beginning to exceed the sustainable supply.

The challenges enumerated above—war and deployments, patient and family care needs, demand and supply, workload quality and quantity, and leader development—warranted a full review of the Army Nursing operational environment. The time to transform was now! I knew we could not accomplish everything at once. We needed to make deliberate, resource-informed decisions to ensure that we met the challenges of today while preparing for those of tomorrow. As the Army and AMEDD had developed strategic plans that provided clear glide paths for the future, Army Nursing had to strengthen its place as a relevant, agile, and outcomes-driven leader and collaborator in AMEDD healthcare.

THE PATIENT CARINGTOUCH SYSTEM

My first priority was to build a system that encompassed all nursing care delivery environments; reduced delivery variance so that care outcomes could be analyzed for care improvement; ensured patients were receiving the best nursing care across the system based on the same standards of care and professional practice; established baseline standards for AN clinical, professional, and business practices; and, finally, reduced nurse turnover and improved nurse retention. The care system needed to exemplify Army Nursing's core values—what we believe as nursing care providers—and guide, gauge, and ground the work in all nursing care environments. The Patient CaringTouch System came from this commitment and includes 5 elements: patient advocacy, enhanced communication, capability building, evidence-based practice and management, and healthy work environments as illustrated in the Figure. We believe that these 5 elements, when combined synergistically, produce the best patient outcomes.



The Army Nursing Creed (presented on page 9), written by Army nurse LTC Leigh McGraw in 2009, begins with the statements:

> I am a member of the Army Nursing Team. My patients depend on me and trust me to provide compassionate and proficient care always.

The Creed not only defines patient advocacy for Army Nursing by delineating how we want to morally and ethically deliver care, it further illuminates the bedrock beliefs upon which Army Nursing operates. This Creed, along with the American Nurses' Association *Standards of Practice and Professional Performance*[1] and *Code of Ethics*,[2] the Army Values, Soldier's Creed, and Army officer Oath of Office, comprise Army Nursing's core values that define our vision for the care we provide. The Patient CaringTouch System is how we put that vision into practice. This system provides a sustainable framework for our transition from a diverse, location-dependent, single expert-based style of nursing practice and nursing care delivery to a standard, consistent system of caring across Army Medicine. It

*TDA – Table of Distribution and Allowances. The TDA prescribes the organizational structure, personnel and equipment authorizations, and requirements of a military unit to perform a specific mission for which there is no appropriate table of organization and equipment.

cultivates patient and staff trust by providing standard processes in which care is measured across Army Medicine as it allows us to look critically at what we do, how we do it, and how we can improve.

The Patient CaringTouch System ensures our patients know that we have their best interests at the forefront of all care decisions and it promotes best practice standards, not standardization, for nursing care Army-wide. When we piloted the Patient CaringTouch System at Fort Campbell, Kentucky, we found that we had a positive impact on patient outcomes, patient satisfaction, clinical communication, provider-nursing staff collaboration, and provider satisfaction. We believe these results will be reproducible across Army Medicine. We are using evidence-based metrics to benchmark nurse sensitive indicators against AMEDD and national standards to validate our firm belief that our patients are receiving world-class, high quality patient care. The Patient CaringTouch System transcends care environments and, although currently being implemented at 3 exemplar facilities based in the United States, it will soon be implemented in diverse care environments such as outpatient care areas, combat support hospitals, and mobile locations such as the back of a medical evacuation helicopter relative to Army Nursing's en route critical care transport mission.

Evidence-based Practice and Management

Evidence-based practice is a key element in the Patient CaringTouch System and nursing researchers, embedded within newly formed Centers for Nursing science and Clinical Inquiry (CNSCI), are translating research into practice to optimize the quality of care provided to our patients. These Centers are promoting enhanced nursing decision support, evidence-based practice, and research. Nurse scientists, clinical nurse specialists, and our healthcare systems analysts comprise the CNSCI. These experts working together are affecting the transition from a "question-to-answer model" to the more valuable "question-to-translation-to-evaluation model." Consolidating nursing support assets who are working on a common sense research priority agenda increases the capacity for evidence-based management and evidence-based practice Army Nursing-wide.

Research and evidence-based practice are overarching and core constructs in the Army Nursing Campaign Plan. Army Nursing is transforming from a single facility, "expert-based" practice model to a systems-based care model to best leverage knowledge management and research translation across all nursing care environments. This is critical to improve patient outcomes, safety, healthcare value, and quality. Tenets of a systems-based care model include system re-sourcing, health care economics, teamwork, cost-benefit considerations, and practice management. Key to success is gleaning the knowledge of diverse nursing support experts such as systems analysts, doctors of nursing practice, nurse informaticists, and clinical nurse specialists to better meet the needs of bedside nurses and the nurse leaders who provide and direct the delivery of patient care.

Army Nurse scientists are collaborating in joint, multi-national, and academic settings to infuse nursing practice with evidence-based science. The premier Army Nursing Practice Council (ANPC), established in the fall of 2010, is providing the critical connection between nursing science and nursing practice. The ANPC meets monthly to review evidence, data, and science to develop evidence-based Tactics, Techniques, and Procedures that then become the standards across Army Medicine. We are constantly refining our clinical capabilities to meet the ever-changing complexity of providing care in challenging care environments by data mining and application of lessons learned. For example, with this analysis, we determined a need for Army trauma nurses whose capability was connected to a mission (trauma care) rather than a location (emergency room, intensive care unit). This new area of concentration would produce economies of scale by producing mission-driven capability for the same cost, economies of effort by exploiting manpower, materiel, and time, and economy of scope by producing a nurse who could function in any critical care environment.

As a result of increasing demands for trauma nurses and the complexity of care required in both theaters of operation, we made the decision to establish a separate area of concentration consolidating intensive care unit and emergency nursing with the educational and clinical focus on combat trauma care. This new area of concentration will provide us a flexible and agile economy of force, while providing an economy of effort for training. We are reshaping our intensive care unit and emergency nursing courses into a single curriculum focused on acquisition of trauma nursing and critical care competencies. The Army trauma nurse area of concentration will result in assignment flexibility in both our hospitals and deployed combat support hospitals, and provide an unprecedented level

of trauma nursing capability for military medicine. Every Army nurse must be a trauma nurse.

The Perioperative Nurse Consultant, in collaboration with the national perioperative nursing organization, expanded perioperative nursing's capabilities by adding complex additional sterilization procedures to the curriculum for both our perioperative nurse and operating room technician programs. This proactive initiative addresses a national health concern regarding potential infectious disease transmission resulting from improper sterilization processing of surgical scopes. Currently, we are developing a pilot program to leverage the capability of graduate prepared Perioperative Clinical Nurse Specialists into the new role of Perioperative Nurse Case Managers. These case managers will be responsible for the coordination of clinical care across the perioperative continuum from preoperative preparation to postanesthesia care. This role will concentrate on quality assurance with a focus on patient safety and perioperative arena efficiency to include the operating room and the centralized sterile processing department. The operating room can be one of the busiest patient touch points in a facility, and as a result, a high-risk area where we want maximum perioperative nurse oversight of all nursing processes throughout the perioperative care continuum.

We implemented an initiative related to critical care skills for our enlisted licensed practical nurses (LPNs). My priority was to fully leverage their capabilities, along with that of our medics, as members of the AMEDD healthcare delivery team. In October 2010, we conducted our first predeployment critical care course for enlisted practical nurses from one of our deploying combat support hospitals. The Soldiers received didactic instruction and clinical rotations in critical care and burn care at Brooke Army Medical Center and the Institute of Surgical Research. Three enlisted practical nurses from the deploying 115th Combat Support Hospital attended a "critical care skills during deployment" pilot. On average, students demonstrated a 42% increase in self-reported skills related to chest tube drainage system setup, cardiac strip interpretations, and patient report/handoff. With the success of this pilot, we are currently developing a predeployment LPN course that will prepare deploying LPNs for the complex trauma missions they will support. Licensed practical nurses and medics stand shoulder to shoulder with Army nurses in deployed care environments and as such, must be able to deliver care to the fullest extent of their scopes of practice (LPNs) and scopes of competency (medics).

LEADERSHIP

In the fall of 2009, a leadership study was undertaken by MAJ Tamara Funari, an Army nurse student at the Command and General Staff College, to examine Army Nursing to determine how best to develop full-spectrum Army Nursing leadership at every level. We needed to replace the business practice of assigning leaders based on seniority and an outdated lifecycle model with one of capability-based assignments wherein talent, performance, and an officer's capabilities were carefully matched with job capability requirements. Furthermore, I knew that any Army Nursing transformation would not be sustainable simply because of our core competencies or technology, but because we continuously regenerated leadership at all levels of Army Nursing. This was the strategy that would allow leaders at every level to innovatively reinvent competencies, cultures, and technology. *Field Manual 1* states,

> …the ambiguous nature of the operational environment requires Army leaders to know themselves and deal with circumstances as they are….[3]

I knew that our nurse clinical leaders were making nanosecond clinical decisions in disparate, high-optempo care environments that relentlessly presented complex challenges that had no prescribed solution sets. We needed a concept of Army Nursing leadership tethered to the Patient CaringTouch System but comprehensive enough to mount a full-scale transformation of Army Nursing leader development. I asked MAJ Funari to define full-spectrum leaders for Army Nursing within the context of leaders who could adapt to any conditions-based mission. Her definition was the blueprint we used to begin construction of the virtual Nursing Leader Academy at Fort Sam Houston, Texas. The purpose of the Leader Academy concept was to develop a process that continuously developed leadership and promoted the acquisition of leader capabilities required for and aligned with the changing demands of our care environments.

FORCE STRUCTURE

My third priority was to optimize Army Nursing's footprint by leveraging inventive, groundbreaking recruiting, retention, and incentive strategies, then adjusting and enhancing Army Nursing force structure

to better align it with missions and requirements in support of The Surgeon General's vision. The mission analysis evaluating Army Nursing force structure looked at past growth and development of new capabilities (areas of concentration (AOCs), additional skill identifiers), internal strengths and weaknesses, the macroenvironment (external to the AMEDD), AMEDD corporate level strategy and business strategy, as well as functional strategies the AMEDD was pursuing to build competitive advantage through superior efficiency, quality, innovation, and customer responsiveness in order to achieve the business strategy. We also evaluated Army Nursing's structure and control systems—did we have the right level of vertical differentiation? For example, were there the right numbers and levels of senior nursing hierarchy in place or was control decentralized? We evaluated horizontal differentiation to analyze if we were organized functionally or around a "product," such as nursing care delivery. And finally we evaluated whether we had the right integration or control systems in place to not only manage day-to-day Army Nursing operations, but to continuously evaluate and improve our product, nursing care across care environments. To evaluate the macroenvironment, we used a modified version of Porter's 5 forces.[4] First, we considered external "industry competitors" to evaluate if anyone was delivering nursing care better than us, and if so, how? For this, we collaboratively partnered with Kaiser Permanente Nursing who became our "thought partners" as we were both on a similar journey of transformation. Second, we wanted to know where our pressure points from "substitutable products (nurses)" were, that is, who were our competitors for our Department of Defense civilian nurses, and what was their competitive advantage? Third, what was the bargaining power of the "suppliers" (other healthcare organizations) in terms of compensations offered? Fourth, what did our civilian nurses—our "buyers"—want? And fifth, were there any "potential entrants" into nursing with new, innovative best clinical practices; optimized technology; and fresh ideas, data, science, and evidence; and if so, who were they? Our analysis of Army Nurse Corps' force structure and force management processes and strategies was sobering. Current Army and AMEDD missions and priorities had moved our force structure target such that it was no longer aligned with priority requirements or well-positioned for the future. Emerging global and national trends were shaping requirements in a demanding way that outpaced the utility of manpower documents. The complexity and challenges of leading rather than managing healthcare delivery required scrutiny and perhaps a reordering of how we assigned our colonels, our most senior nursing strategists, against capability requirements. We needed the development of forcing functions such as integration of talent management concepts into the assignments process in order to aggressively best-match officer talent to talent requirements inherent in a job position. Eight years of persistent conflict mandated a comprehensive look at capability, that is, nursing skills, knowledge, and behaviors required for current and future fights, as well as capacity, the right numbers of qualified nurses to do the job.

As the AMEDD transitions from a healthcare system to a system of health focused on wellness and prevention, it was imperative that we examined innovative ways to exploit current nursing capability, as well as define future nursing capability needs in order to optimize nursing resources for current and future care requirements in a wellness health model. A basic tenet of Army Nursing transformation, patient-centered care, mandated that care was organized around the patient. Subsequently, we looked for new "care configurations" using nursing resources that brought care to the patient, rather than the patient having to go to a location for the care. We are piloting the concept of assigning our Public Health Nurses (PHNs) (AOC 66B) into our brigade combat team nurse billets. Our PHNs are experts at promoting wellness among populations, so it made sense to leverage them where our largest Army populations exist, in line units. This concept, nicknamed "curbside nursing," precludes Soldiers from having to come to hospitals for wellness initiatives such as tobacco cessation. Instead, the PHN works with Soldiers in a military unit setting in a way that allows establishment of long-term therapeutic relationships with these individuals. This allows the PHN to determine health requirements of the unit and plan education and therapies to address those needs. This initiative will optimize the medical readiness of units preparing for deployment, during deployment, and upon the unit's return to home station.

Conclusion

Although we could neither eliminate nor predict the uncertainty of the future, we developed a framework

that harnessed its opportunities. We developed an Army Nursing Campaign Plan that defined a 4-year end state reflective of our unique mission, environment, and time in history while providing a 15-year blueprint for sustaining a vibrant Nurse Corps, relevant for the future. By executing the Campaign Plan, we reached our goals to leverage lessons learned from the past, engage present innovations, and shape the future of professional nursing for the benefit of those we serve. My covenant to Army Nursing was to preserve the continuum of the Army Nurse Corps' past, present, and future, while leading a nursing transformation focused on dedicated service, innovation, and a commitment to excellence. I am humbled by the phenomenal effort my predecessors devoted to creating the strong foundation on which Army Nursing stands today. Their successes were our touchstone as we moved forward, caring and advocating for our patients and their families. I envisioned an Army Nursing of the future that would leave its mark on military nursing, and would be a leader of nursing practice reform at the national level. Our priority was always our patients and their families, and our common purpose was to support and maintain a system for health. United in achieving this purpose, we serve with the courage to care, the courage to connect, and the courage to change so that we can continue to provide the best possible care to those who wear the cloth of our nation.

REFERENCES

1. *Nursing: Scope and Standards of Practice*. Silver Spring, MD: American Nurses Association; 2010.
2. *Code of Ethics for Nurses With Interpretive Statements*. Silver Spring, MD: American Nurses Association; 2011.
3. *Field Manual 1: The Army*. Washington, DC: US Dept of the Army; June 2005:1-18.
4. Porter ME. The five competitive forces that shape strategy. *Harv Bus Rev*. 2008;13(1):86-104.

AUTHOR

MG (P) Horoho is the Deputy Surgeon General and the Chief of the Army Nurse Corps. She has been confirmed to be the 43rd Surgeon General of the Army and Commander of the Army Medical Command. She will assume those responsibilities in December 2011.

THE ARMY NURSING TEAM CREED

Authored by LTC Leigh McGraw

I am a member of the Army Nursing Team

My patients depend on me and trust me to provide compassionate and proficient care always. I nurture the most helpless and vulnerable and offer courage and hope to those in despair. I protect the dignity of every individual put in my charge.

I tend to the physical and psychological wounds of our Warriors and support the health, safety, and welfare of every retired Veteran. I am an advocate for family members who support and sustain their Soldier during times of War. It is a privilege to care for each of these individuals and I will always strive to be attentive and respectful of their needs and honor their uniquely divine human spirit.

We are the Army Nursing Team

We honor our professional practice standards and live the Soldier values. We believe strength and resiliency in difficult times is the cornerstone of Army Nursing. We embrace the diversity of our team and implicitly understand that we must maintain a unified, authentically positive culture and support each other's physical, social, and environmental well-being. We have a collective responsibility to mentor and foster the professional growth of our newest Team members so they may mentor those who follow.

We remember those nursing professionals who came before us and honor their legacy, determination, and sacrifice. We are fundamentally committed to provide exceptional care to past, present, and future generations who bravely defend and protect our Nation.

The Army Nursing Team:
Courage to Care, Courage to Connect, Courage to Change

Embrace the Past, Engage the Present, Envision the Future

Building the Army Nursing Campaign Plan

COL Susanne Clark, AN, USA
SGM Richard Brewer, USA

> Planning and executing four years at a time stops today. The campaign planning process is our 15-year blueprint for continual review, analysis, and execution so that we maintain organizational credibility and sustainability.
>
> MG Patricia Horoho, Army Nurse Corps Campaign Planning Conference, San Antonio, TX; November 2008.

In August 2008, the Chief of the Army Nurse Corps, MG Patricia Horoho, directed a top-to-bottom review of all Army Nursing* clinical, business, and professional practice processes as a gap analysis to determine campaign planning for the 4 years ahead. She directed her staff to align her strategic intent for over 40,000 professionals performing diverse missions across various care environments with Army Medical Department (AMEDD) operational goals and objectives in a way that allowed a comprehensive measurement of nurse-sensitive patient outcomes.

Mission Analysis

The Corps Chief's guidance was to rethink the purpose and goals of Army Nursing (AN) in a much broader and more far-reaching way. Considering the military's status as a reactive force concerned with "hedging bets," in 2006, GEN Peter Pace, the Chairman of the Joint Chiefs of Staff, observed that,

> We cannot accurately characterize the security environment of 2025; therefore, we must hedge against this uncertainty by identifying and developing a broad range of capabilities. Further, we must organize and arrange our forces to create the agility and flexibility to deal with unknowns and surprises in the coming decades.[1]

At a meeting on November 15, 2009, MG Horoho summarized her thoughts about the next 4 years and AN's future along those same lines:

> …this uncertainty, along with 7 years of war, requires us to resculpt the art of nursing and make us a more significant force capable of providing diverse and persistent nursing capabilities for an uncertain and unpredictable world.

As a result, the first priority was to answer 2 questions:

1. What capability is needed currently?
2. What capability is needed for the future?

We wanted to consider new ways to leverage current nursing capability against a broad spectrum of missions, while also considering new nursing capabilities for the future. Furthermore, we were directed to:

- **"Build our Bench,"**
- get **"Back to the Basics"** of bedside care,
- **"Optimize Performance,"** and
- develop a **"Portfolio of Talent."**

These 4 imperatives became the strategic objectives for the AN Campaign Plan.[2] We used the Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities[3] analysis tool to focus our gap analysis for each objective.

Initial Analyses and Direction

As an example, to build our bench (leader development), we posited questions, presented in Table 1, that focused on refining our efforts towards developing an end state for this strategic objective.

We developed 3 priorities from these questions: develop a full-spectrum leader concept, develop a leader succession plan, and develop a leader academy concept that includes both training and education platforms. Following similar analysis of Warrior/patient care delivery systems (back to basics) the Corps Chief defined the priority: development of a professional nursing practice model. In order to optimize performance (evidence-based practices), she identified 3 priorities: development of a prioritized AN research agenda; development of AN evidence-based clinical practice standards; and development of an AN culture of knowledge management that drives decisions for clinical, professional, and business practices at all operational levels. The decision relative to developing a portfolio of talent (human capital)

*Army Nursing includes the Army Nurse Corps and all elements of professional nursing in the Army Medical Department: Active, Reserve, National Guard, and Department of Defense civilian registered nurses, licensed practical nurses, and nursing assistants.

Table 1. Questions that focused on refining the efforts towards developing the AN campaign plan strategic objective, **leader development (build our bench).**

Doctrine: "the way we fight," that is, how we deliver nursing care.	Who are AN's clinical leaders? What competencies do they require? What is AN's succession plan to grow new leaders? How do we identify leader talent? What are the "fight platforms," the inpatient, outpatient, ambulatory and deployed care environments to optimize leader development? How are the processes for identifying and growing AN clinical leaders linked to AMEDD and AN strategic goals and business strategy? What is AN's professional nursing doctrine?
Organization: "the way we're organized to fight."	Strategically, how are AN clinical leaders linked in a knowledge management way? Operationally, how are we task-organized to optimize nursing professional practice? Tactically, how do we deliver nursing care in various care environments? How do AN clinical leaders influence nursing practice?
Training: "the way we prepare to fight tactically."	What is the priority/focus of AN training platforms? How do the training platforms develop capability? How are training platforms aligned with AN strategic objectives, the Campaign Plan, and business strategy? What are the measures of performance/measures of effectiveness for training—what is the bulls-eye for success?
Materiel: "the way we're equipped to operative effectively."	What are AN standard operating procedures? What are AN core values? What skills, knowledge, and behaviors are required for Army Nurses in all care environments?
Leadership and Education: "the way we prepare leaders to lead the fight," that is, healthcare delivery.	What is the right level of educational preparation for the future? How is AN Long Term Health Education and Training linked to AMEDD/AN strategic objectives, business strategy, the Campaign Plan? What new education is needed to produce new capability?
Personnel: "the way we determine the availability of people/leaders."	Where do we need AN leader capability? What is the process for proactively identifying where we need new or different capability? How do we align AN leader force structure with AMEDD/AN strategic objectives, business strategy, and the Campaign Plan? How are our processes for Nurse Corps leader assignments connected to talent management?
Facilities: "the facilities that support the fight."	What are the types of care environments where AN leaders direct nursing care delivery? What are the AN leader workforce to workload ratio requirements in each care environment? How are nursing standards of care influenced by AN leaders in different care environments?

was a singular focus on recruiting and retention for Active, Reserve, Guard, and Department of Defense (DoD) civilian registered nurses. From these priorities, we crafted a defined end state as supported by execution of the objective statements, operational tasks, and critical tasks as shown in Table 2. We used these operational tool maps to provide guidance and direction to the 4 imperative action teams (discussed in detail on page 15) via video teleconferences, telephone conferences, and working meetings throughout 2009 and 2010.

During the mission analysis, we graphically depicted many of the processes AN was using across clinical, professional practice, and business strata in order to visualize gaps and determine the coherence, adequacy, and efficiency of the process we were evaluating. In so doing, we not only found missing elements internal to a single process, but also found that, in some cases, several processes had become so disconnected from each other that entire networks of processes had become ineffective. In many cases, we found a vacuum where processes had once existed, but had either been dismantled or had not become part of a written or oral handoff during transitions. For example, Figure 1 is a graphic depiction of the network of processes we rebuilt to develop capability that was connected to force structure development, the AN officer assignments

Table 2. The objective statements, operational tasks, and critical tasks developed to guide work towards the AN Campaign Plan strategic objective "Leader Development."*

Operational Objectives	Objective Statement	Operational Task	Coordinating Points	Critical Task
LD 1.0: Full-Spectrum Leaders	Provide appropriate nursing capability and capacity in support of the Army CoS and The Surgeon General's strategic objectives.	Perform gap analysis between current capability and capacity and future requirements.	• FORSCOM • TRADOC • EBOD • Nurse Consultants • APPD	• Define full-spectrum leaders. • Define and validate critical leader positions. • Develop leader capacity and capability plan. • Integrate a credible, viable, sustainable civilian workforce into the AN leadership structure.
LD 1.A: Leader Succession Plan	Develop and execute a leader succession plan that ensures sustainable mission capabilities.	Develop life cycle models with appropriate force modeling to ensure current and future capabilities and force structure.	• APPD • Nurse Consultants • USAREC • ROTC • EBOD	• Life cycle model • Clinical tracks • Plans for all key leader positions
LD 1.B: Leader Training and Development	Align training requirements with "Train as you fight" doctrine to ensure future capability that supports AMEDD missions.	Top-to-bottom review and restructure of AN training programs.	• RMCCN • Cadet Command • DNS/AMEDDC&S • EBOD • USAREC	• Assess appropriate utilization of external agencies, ie, RAND, TWI. • Assess AMEDDC&S AN courses to determine what competencies and capabilities each produces. • Gap analysis between what we have and what we need.

*Leader development is defined as a persistent, sustainable nurse leader succession plan creating full-spectrum leaders who are adaptive to any conditions based mission, provide persuasive voices at key echelons of influence in the AMEDD, and develop innovate doctrine to blueprint the future of the Army Nurse Corps.

Glossary

AMEDD - US Army Medical Department
APPD - AMEDD Personnel Proponent Directorate
FORSCOM - US Army Forces Command
RMCCN - Regimental materiel management center
TWI - Training with industry
AMEDDC&S - AMEDD Center & School
DNS - Department of Nursing Science
LD - Leader development
ROTC - Reserve Officers Training Corps
USAREC - US Army Recruiting Command
AN - Army Nurse Corps
EBOD - Executive Board of Directors
RAND - The RAND Corporation, Santa Monica, CA
TRADOC- US Army Training and Doctrine Command

process, and AN training in a way that supported execution of our business strategy—the Campaign Plan. Using this graphic, we were able to visually determine how and where in the process to target actions to optimize best efforts, as measured by metrics of performance, and generate the best products, as measured by metrics of effectiveness.

Processes and Outcomes

Crafting end states under the Corps Chief's intent for each of the strategic objectives was the most difficult task. Our mantra became "start at the end to define the beginning" to keep us focused on capability required under each of the objectives, that is, what tactics, techniques, processes, and products did we want in place at the end of 4 years that would ensure a vibrant, relevant Army Nursing team poised for current and future missions? A focus on patient wellness was envisioned, in the context of evidence-based delivery of nursing care as the key tenet in positioning AN as a force multiplier for Army Medicine now and in the years to come. Based on our operational objectives and discussion with the Corps Chief and Corps leaders at all levels, we deduced that our overarching task was synchronization and integration, across nursing care environments, of operational efforts along with adequate scale, spread, and sustainment plans, to enable the Campaign Plan's strategic objectives. Initially, we defined requirements for success:

- Determination of best methodologies for leveraging clinical nursing knowledge management.
- Alignment of bedside nursing care delivery tactics, techniques, and processes across all care environments with the Campaign Plan's strategic objectives.
- Determination of best processes and resources that enabled unity of effort for shaping and transforming nursing care delivery focused on quantifiable patient outcomes.
- Development of metrics of performance and effectiveness to qualify and quantify nurse-influenced patient care outcomes.

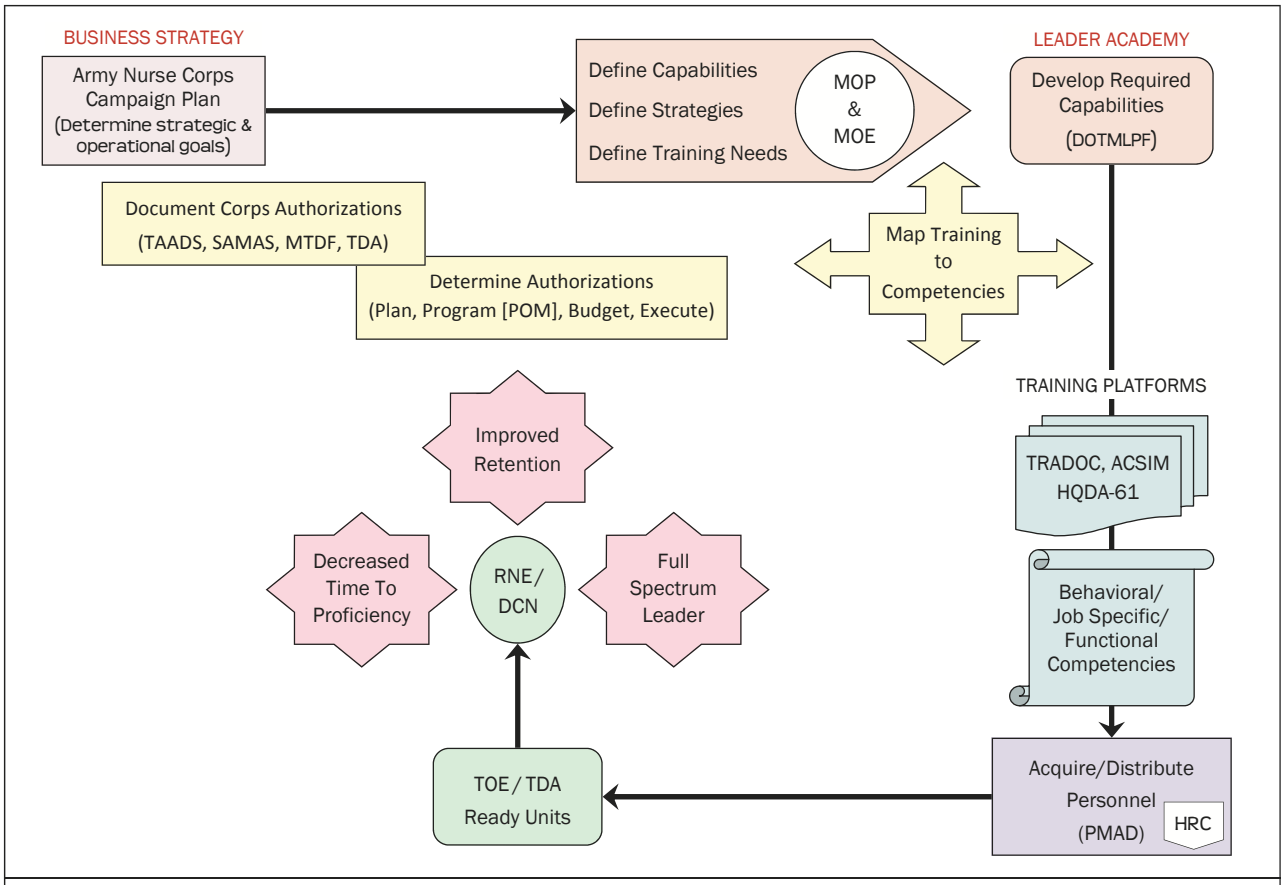


Figure 1. The network of processes for AN capability development that was determined, after evaluation of prior processes, to be the best method for connecting capability development to force structure development, the assignments process, and training in a way that supported execution of the business strategy—the Campaign Plan.

Glossary:

ACSIM - Assistant Chief of Staff for Information Management
DCN - Deputy Commander for Nursing
DOTMLPF - Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities [analysis]
HRC - US Army Human Resources Command
HQDA - Headquarters, Dept of the Army
MOE - Measure of effectiveness
MOP - Measure of performance
MTDF - Medium team development framework
PMAD - Personnel management authorization document
POM - Program Objectives Memorandum
RNE - Regional nurse executive
SAMAS - Structure and Manpower Allocation System
TAADS - The Army Authorization Document System
TDA - Table of distribution and allowances
TOE - Table of organization and equipment
TRADOC - US Army Training and Doctrine Command

- Ensure sustainability of all transformation initiatives.

To ensure unity of effort on Campaign Plan execution across Army Nursing, it was critical to develop a conceptual model that delineated priority focus areas for the next 4 years. The model also needed to illustrate how AN synchronized with and supported The Surgeon General's balanced scorecard (definition on page 25) and the Army imperatives developed by the Army Chief of Staff: sustain, prepare, transform, reset. Subsequently, we developed a line of action (LOA) diagram (Figure 2) that melded strategic conditions and requirements into operational direction of AN efforts towards achievement of strategic objectives and, ultimately, toward achievement of the strategic end state. Then, we fused traditional military campaign planning with balanced scorecard graphics to conceptualize a strategy map as an operational framework for executing the Campaign Plan in support of Army Medicine objectives.

The operational tool maps, along with the LOA diagram and the AN strategy map, became planning guidance for developing courses of action and staff estimates.

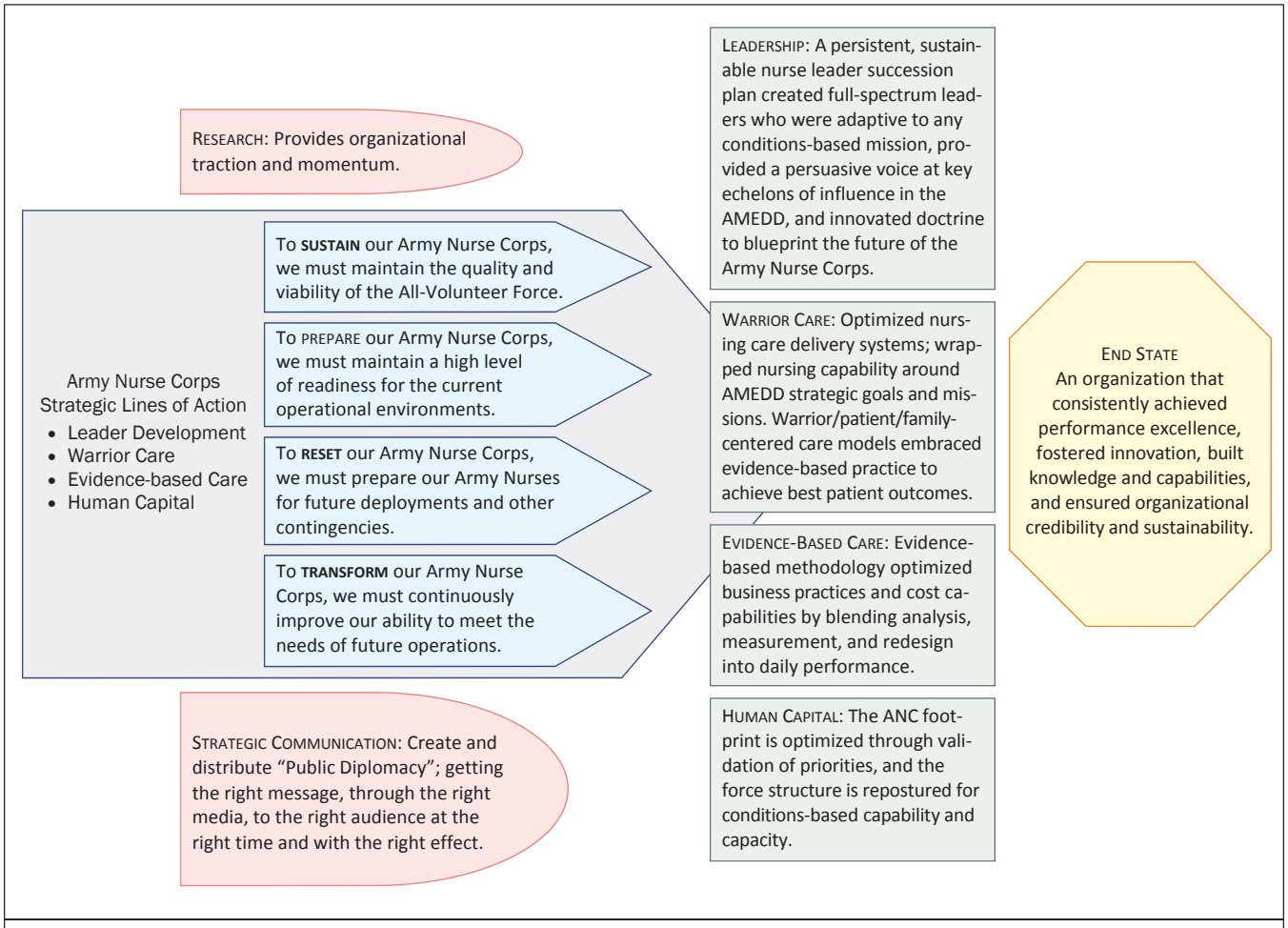


Figure 2. The line of action diagram displaying the consolidation of strategic conditions and requirements as the directional impetus for the achievement of the AN Corps strategic objectives, and the strategic end state.

ARMY NURSE CORPS LEADERSHIP INFRASTRUCTURE

Early on, we realized that we lacked a networked leader infrastructure to fully execute the Campaign Plan. We needed a flatter, more horizontal leader structure whose members would act as a compass, keeping AN on the Campaign Plan's azimuth in an agile and responsive way. In 2008, at the Corps Chief's direction, we developed a concept of operations that aligned senior nursing leadership as Regional Nurse Executives within the newly-formed AMEDD regional headquarters structure. We then developed an Executive Board of Directors for AN that best represented the AN triad (officers, noncommissioned officers (NCOs), enlisted personnel, DoD civilians), comprised of the following:

- Regional Nurse Executives and their senior clinical NCOs
- Medical brigade chief nurses and their NCO counterparts
- Chief nurses for medical and forces commands (Army Medical Command (MEDCOM), Army Forces Command (FORSCOM))
- Chief nurses for the Army Recruiting Command and the Army Cadet Command
- The AMEDD Integration Officer at Accessions Command
- A DoD civilian registered nurse
- Chief nurse for the Army Human Resource Command, Health Services Division
- The AN Corps Specific Branch Proponency Officer (CSBPO)
- The Deputy Corps Chief

- Deputy Corps Chief, Drilling Individual Mobilized Augmentee (DIMA)
- Corps Senior Clinical Enlisted Advisor

This initial nurse leader framework was the glue that bound all nursing care environments together at the operational level in order to execute the Campaign Plan. We eventually realized that the size of the Board was impacting responsiveness of its components and so decreased the members of the group to those on the the Corps Chief's special staff (Corps Deputy and DIMA; Chief Nurses of MEDCOM and FORSCOM; CSBPO; Chief Nurse, Army Human Resources Command; Chief Nurses for the Army Recruiting Command and the Army Cadet Command; AMEDD Integrator; Corps Chief Sergeant Major). The special staff provided a balanced focus on priority efforts, executed sequenced planning, and delineated decisive points and decision points along the Campaign Plan's LOA. The Surgeon General's nurse specialty consultants provided clinical situational awareness that refined and guided our AN clinical centers of gravity that define the foundation of AN's capability. The AN Research Advisory Board was tasked to ensure AN research provided evidence-based traction and momentum for the Campaign Plan. As a result, the Advisory Board developed a research agenda that prioritized research efforts in support of the Campaign Plan and Army Medicine initiatives, and connected nurse researchers worldwide. Next, we formed imperative action teams (IATs) to fully develop the concepts of operation necessary to execute the Campaign Plan. Members of the Special Staff were appointed as champions for each of the 4 IATs. As champions, they identified and controlled decisive points along our lines of action to maintain momentum on outcomes and sustain ongoing initiatives. Subsequently, by late August 2009, the infrastructure necessary to execute the Campaign Plan was in place.

EXECUTION

Working with the IATs and their champions, we provided oversight to ensure synchronization between IAT staff estimates as well as set decision points that triggered briefings to the Corps Chief. These briefings further shaped her strategic concept that ultimately informed the overall transformation of Army Nursing. Throughout 2009, we met with the IATs to further sequence and synchronize their efforts as development of courses of action began in earnest. We created and used graphics we called "mind maps" that translated the Corps Chief's thoughts and ideas into operational strategy by visually depicting her concepts. The mind maps helped the IATs to mitigate the time lapses between receiving her guidance and planning-to-solution development in an "avalanche" type way. For example, Figure 3 depicts a discussion with MG Horoho about her concept of a professional practice model for Army Nursing. Each level of the "structure" illustrates requirements she initially delineated for the practice model. We used the Campaign Plan and AN strategy map as our business strategy to task each IAT with identifying competencies, practices, and capabilities we needed to achieve mission success. Priorities also included developing methods to map our training platforms to any

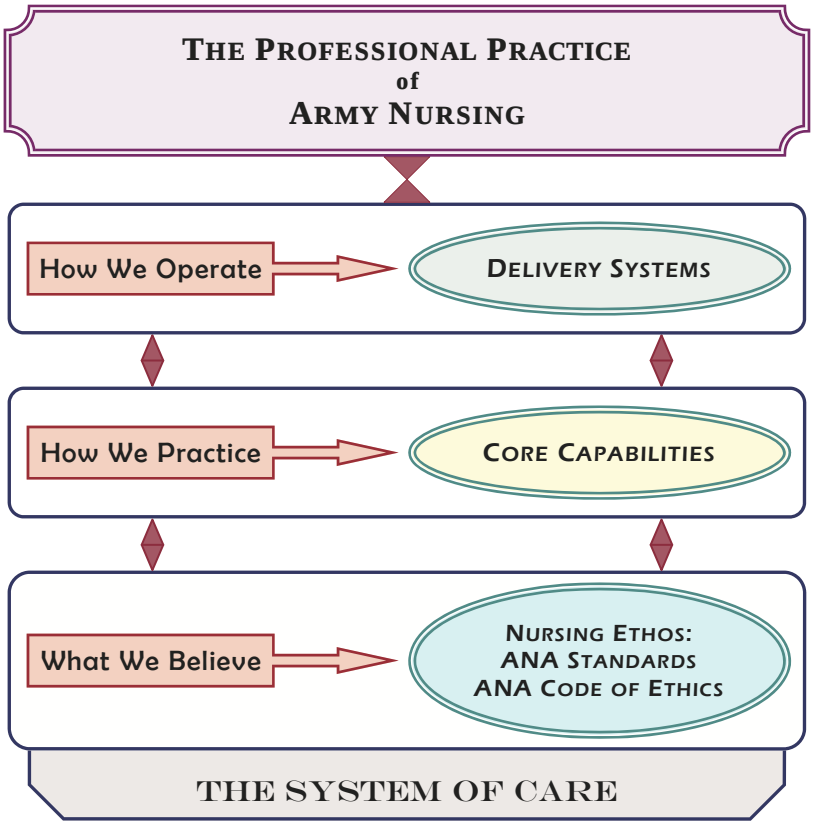


Figure 3. The structural concept of the professional practice model for Army Nursing.

identified required competencies, and re-cueing our recruiting and education platforms to buy or grow the right capability needed. Finally, each IAT was tasked to develop a strategic communication plan and a plan for leveraging evidence, data, and best practices to optimize courses of action and staff estimates.

At the end of years 2009 and 2010, key AN leaders met to review campaign planning from the previous year and establish direction for the next year. Using this ongoing campaign planning process allowed us to meet new challenges quickly while dealing with day-to-day AN operations in a very flexible and agile way. As a result of these synergistic meetings, we realized the AN professional practice model was too limited in its scope of concept in that it only addressed professional practice and did not meet the Corps Chief's intent to develop:

- A nursing care delivery system that transcends all nursing care environments in a way that allows us to measure and improve patient outcomes.
- A nursing care system that illuminates and clearly articulates what we believe as nurses (professional practice), how we practice as nurses (clinical practice), and how we operate as a Corps and nursing team (business practices).

Subsequently, the professional practice model was reconceptualized, using evidence-based data, to become a nursing system of care called the Patient CaringTouch System. As work continued on this task, the need for a more muscular infrastructure to operationally manage components of this system after implementation became clear. As a result, the IAT working on evidence-based practice was tasked to develop the concept of an AN Practice Council that would be the hub for evidence-based inquiry and act as a clearinghouse for evidence-based best practices that would be integrated at the patient care bedside. Furthermore, as senior AN leaders' input became crucial in support of IAT efforts, the Special Staff developed the concept of a Corps Chief's AN Advisory Council to ensure validation of effort between those leaders at the frontline of patient care and the Corps Chief. The AN Advisory Council members include the Chief Nurses for MEDCOM and FORSCOM, Regional Nurse Executives, and Medical Brigade Chief Nurses along with their NCO counterparts.

Sustaining Transformation

At a planning meeting in 2010, we discussed how best to meet the Corps Chief's final directive: sustain transformational change. We decided on a sustainment "keyboard" that displayed the elements of the Patient CaringTouch System horizontally across the top, and the Campaign Plan's strategic imperatives vertically along the side. The keyboard allowed us to cross-reference the CaringTouch System against the Campaign Plan in an integrated way, while also allowing us to archive those gaps we had identified, actions, and products under each appropriate number.

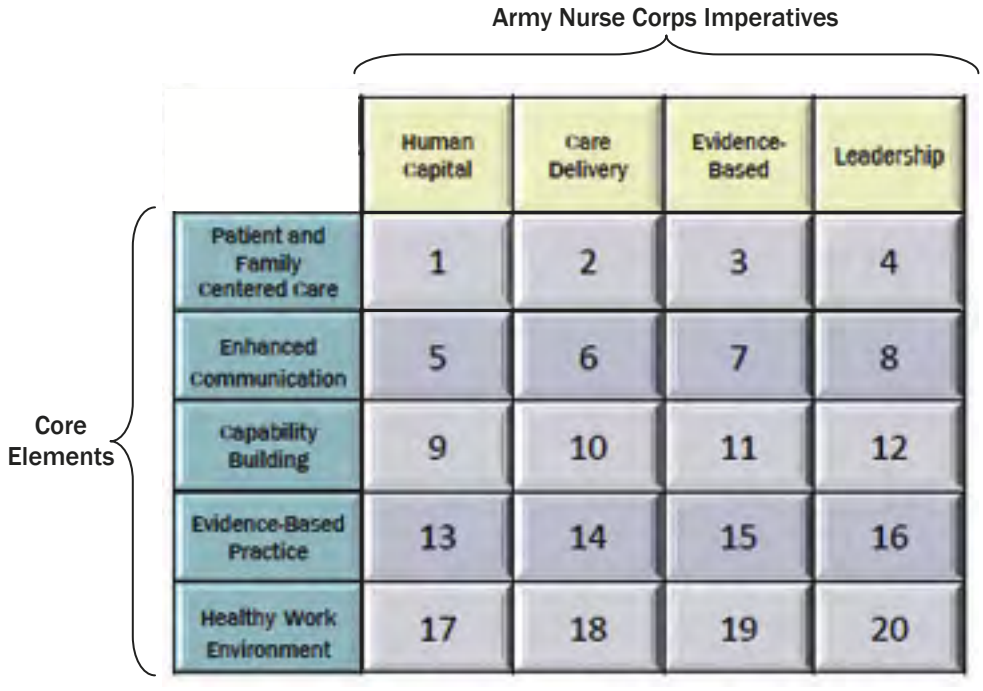


Figure 4. An interactive briefing tool developed to display the transformation initiatives and identified gaps in clinical practice and business strata processes mapped to each core element of the Patient CaringTouch System and a strategic objective (AN Corps imperative). Selection of a key opens a link that displays a list of the related initiatives and gaps.

We used the keyboard to brief senior leaders at planning meetings for the Campaign Plan in order to "articulate the connections between new behaviors and organizational success" that John Kotter identifies as key to successful transformation efforts.[4]

We will use the keyboard as a legacy tool to inform the next Corps Chief team and their efforts in a focused way to "Embrace the Past" (lessons learned, gaps identified); "Engage the Present" (actions executed, state of the Corps); and "Envision the Future" (emerging missions, capability and capacity requirements).

CONCLUSION

MG Horoho directed a 4-year Campaign Plan that established standards for AN leader development, optimized nursing care and nursing business processes, and developed methodologies focused on optimizing AN's human capital footprint. Her vision focused on building a nursing care system that connected all members of Army Nursing who have the capacity to improve patient care to the system's purpose of benefiting all those entrusted to Army Nursing's care. Using the military campaign planning process allowed us to clearly define what constituted success at the end of 4 years, as well as establish a 15-year blueprint for the future of Army Nursing.

ACKNOWLEDGEMENTS

We wish to recognize the phenomenal support provided to us by COL (Ret) Eileen Malone and COL (Ret) Claudia Bartz, US Army Nurse Corps. Their insight, wisdom, intellectual rigor, and gentle guidance throughout our Army Nurse Corps transformation journey made possible all of our successes. Thank you.

REFERENCES

1. Pace P. Chairman's Assessment of the 2006 Quadrennial Defense Review. In: *Quadrennial Defense Review Report*. Washington, DC: US Dept of Defense; February 6, 2006: A-6. Available at: http://www.defenselink.mil/pubs/pdfs/QDR20060203.pdf. Accessed August 8, 2011.
2. US Army Nurse Corps. The Army Nurse Corps Campaign Plan. Available at: http://armynursecorps.amedd.army.mil/campaign/campaignplanonwebpagemarch09.pdf. Accessed August 8, 2011.
3. DOTMLPF Analysis. Defense Acquisition University web site. Available at: https://acc.dau.mil/CommunityBrowser.aspx?id=28870&lang=en-US. Accessed August 8, 2011.
4. Kotter JP. Leading change: why transformation efforts fail. *Harv Bus Rev*. 1995; March-April 1995:59-67. Available at: http://lighthouseconsultants.co.uk/wp-content/uploads/2010/08/Kotter-Leading-Change-Why-transformation-efforts-fail.pdf. Accessed August 8, 2011.

AUTHORS

COL Clark is the Deputy Chief of the Army Nurse Corps.

SGM Brewer is the Senior Clinical Enlisted Advisor, Office of the Army Nurse Corps.

MEDLINE®

Articles published in the *Army Medical Department Journal* are indexed in MEDLINE, the National Library of Medicine's (NLM's) bibliographic database of life sciences and biomedical information. Inclusion in the MEDLINE database ensures that citations to *AMEDD Journal* content will be identified to researchers during searches for relevant information using any of several bibliographic search tools, including the NLM's PubMed service.

PubMed www.pubmed.gov

A service of the National Library of Medicine and the National Institutes of Health

Designing and Implementing the Army Nursing Leader Academy

COL (Ret) Kathleen Dunemn, AN, USA
COL Denise L. Hopkins-Chadwick, AN, USA
COL Tina Connally, AN, USA
COL Kelly Bramley, AN, USA

Abstract

In 2008, the Chief of the Army Nurse Corps directed a thorough review of existing training programs available to and provided for Army Nursing personnel for the development of full-spectrum leaders for Army Nursing. The review provided the gap analysis necessary to restructure courses provided by the Department of Nursing Science at the Army Medical Department Center and School. This new grouping of courses is referred to as the Army Nursing Leader Academy. The Army Nursing Leader Academy is the first of its kind in that it addresses career-long learning of all Army Nursing by focusing on building skills, knowledge, and behaviors to produce sustainable, full-spectrum leaders. The Nursing Leader Academy consists of a series of sequential nurse leader development courses combined with a web based resource center. Grounded in the Patient CaringTouch System, guided by nurse competencies, and gauged by the Leader Capabilities Map, the Nursing Leader Academy provides learning that is relevant and timely designed to reinforce enterprise values and culture to ensure readiness for successive roles and positions. Full implementation of the Nursing Leader Academy will include the evidence-based elements of formal schooling, coaching, self-development, functional/technical (competency attainment), and professional experiences.

Introduction

By August 2009, the structure to implement the Army Nursing Campaign Plan* was in place. As work began to make the Campaign Plan a reality, it became clear that the Department of Nursing Science at the Army Medical Department Center and School (AMEDDC&S) would have to recue training platforms to ensure the development of the capability that was rapidly being identified. Once the Leadership Imperative Action Team (a task force appointed by the Chief, Army Nurse Corps) produced desired competencies framed in levels of leadership, the work to design the training platform began. The staff completely reviewed and redesigned the platform in less than 12 months, the result of which is the Army Nursing Leader Academy.

Training Platform Analysis

Armed with the work of the Leadership Imperative Action Team and the newly published US Army Learning Concept for 2015,[1] the staff conducted an in-depth analysis of the existing nurse leader development courses. This analysis included a literature review to identify best practices, extensive cross-referencing of competencies to training objectives, and consultation of subject matter experts. Care was taken to not replicate the leadership training courses offered outside of the Department of Nursing Science, but to fill identified gaps. The newly organized Leadership Imperative Action Team was augmented by a chartered nursing education advisory council that consisted of senior Army Nurse (AN) officers, senior enlisted staff, a retired AN officer, and senior civilian nursing education experts. The staff of the Department of Nursing Science, with assistance from the AN Imperative Action Team, and the AN Leader Academy Advisory Board held multiple planning sessions over several months to determine and validate the unifying concepts of the Leader Academy and the associated curriculum threads.

The results of the analysis showed that although valuable courses already existed within the Department of Nursing Science, they were not completely aligned with the newly identified competencies and did not always address career-long nurse leader development. In some cases the teaching strategies were outdated and, by some accounts from the field, less than effective. The courses were few in number with the content often being driven by

*See "Building the Army Nursing Campaign Plan" on page 10.

available presenters. The largest gap was lack of unifying concepts among courses. Compounding the problem was the fact that, although the target audience for each course was identified, an audit of attendees indicated that in some cases more than 50% of the attendees did not meet the description of the target audience—the wrong people were attending. Finally, even if the content of the courses was relevant, most of the courses were optional, making it impossible to guarantee that the message was reaching the target audience.

Design of the Nursing Leader Academy

Growing adaptive and competent Soldier and civilian leaders is a major objective of the Army Campaign Plan 2011, as well as the Army Nursing Campaign Plan. Leader development is one of the most researched topics in behavioral science literature. Among this literature there is support for a blending of formal academic/didactic and experiential/practice leadership learning.[2-4] The Army Nursing Leader Collaborative Learning Framework (Figure 1) was created to illustrate the different modalities used to facilitate learning. Taken from available literature, this framework shows essential interconnected and interdependent modalities: formal schooling, coaching, self-development, functional/technical (competency attainment), and professional experiences.

It was initially thought that the restructured Army Nursing Leader Academy would begin by addressing the formal school modality depicted in the model, and eventually move to capture the other modalities as well. As depicted in the model (Figure 1), formal schooling includes programs or courses that provide didactic and structured learning experiences related to one or more of the expected leader competencies and/or capabilities. In the nursing context, these courses could be military or civilian-hosted, focused on both clinical skills and leadership principles, and progressive in nature with each course becoming a building block for the next. These courses provide the "science" of the application of clinical and healthcare leadership. Examples include Basic Officer Leader Course Nurse Track, BG (Ret) Anna Mae Hays Clinical Nurse Transition Program, clinical specialty courses (trauma nurse, obstetrics nurse, perioperative nurse, etc), Captains' Career Course Nurse Track, clinical nurse OIC and NCOIC* courses, national organization-sponsored manager development courses, and master's degree in nursing or health care administration programs.

Coaching is the art and practice of inspiring, energizing, and facilitating the performance, learning, and development of an individual by a supervisor, peers, and/or subordinates.[5] Its goal is to guide vision, urge excellence, and empower the one being coached.[6] It is a partnership in a thought-provoking and creative process that should inspire an individual to maximize their personal and professional potential.[6] Coaching continues throughout one's career, if not for a lifetime. Army Nursing professionals will undoubtedly coach and be coached many times during their career journey.

Self-development is assuming personal responsibility for one's own learning and development. This development occurs through a process of assessment, reflection, and action.[7] Army Nursing leaders take responsibility for their own learning and development by becoming involved in professional organizations; conducting a self-assessment of current knowledge, skills, and behaviors (usually conducted during quarterly counseling with a supervisor, the Army Nursing Leader Capabilities Map (Figure 2) would be used with AN officers); creating a personal development plan that identifies their learning needs and goals with a timeline; finding a mentor who can provide support, advice, and assistance in career direction; reading professional journals; becoming certified where certifications are offered; and identifying and attending clinical and leadership development seminars and classes to address learning needs and goals.

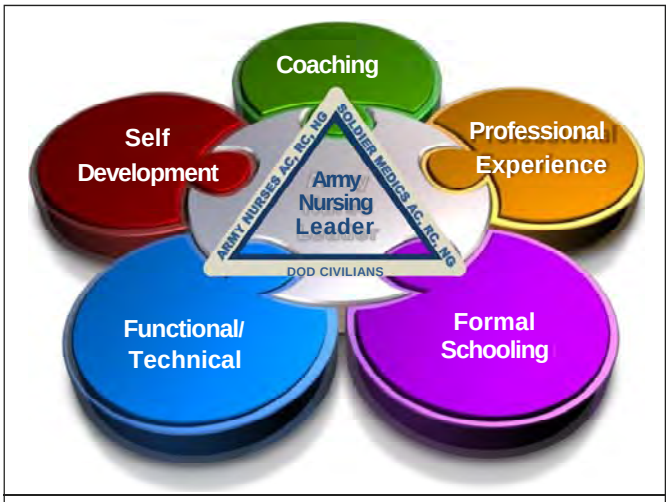


Figure 1. Army Nursing collaborative learning framework.

*OIC: officer-in-charge. NCOIC: noncommissioned officer-in-charge.

Functional/technical competencies are the measurable or observable knowledge, skills, abilities, and behaviors critical to successful job performance. The American Organization of Nurse Executives Nurse Executive Competencies,[8] as delineated in the Army Nursing Leader Capabilities Map (Figure 2), serve as a foundation for self-assessment and as a guideline for minimum expectations and evaluations of more senior Army Nursing leaders. Leader competencies for Army Nursing are stratified by the complexity of management skill application (tactical/direct, operational, and strategic).

Once the modalities for facilitating leader training were identified, the process of curriculum development ensued. The most common steps used in curriculum mapping[9] were adapted to modify or create the Army Nursing Leader Academy courses:

- Determine the key concepts (what should the learner know).
- Identify the skills/competencies and capabilities (what should the learner be able to do).
- Develop and align the performance objectives based on level or complexity of skill application and acquisition (for example, tactical, operational, or strategic; novice to expert).
- Select and align course content.
- Select teaching/learning strategies, and develop assessment methods and course outcome measures.

Assumptions for the design phase were that realignment and design would be a continuous process, blended learning techniques would be leveraged, and deliverables (for example, active individual and group learning, such as projects/papers) would be required. Additionally, courses and course content would be sequenced for progressive learning and be as resource neutral as possible.

Implementation of the Nursing Leader Academy

The Army Nursing Leader Academy web-based resource center* was developed and fielded in early 2010. Its purpose is to provide a virtual link from the classroom to the workplace. This resource center features links to sites such as the Communities of Practice Pages, each hosted by an Army Nurse Consultant to The Surgeon General. Once fully developed, it will be a web-based, single-source center for Army Nursing leaders, containing information (or links to information) about military and civilian courses, a leader academy course catalog, self-development activities such as reading lists and video gaming programs, competency and capability documents, clinical management tool kits, and the course materials for all Army Nursing Leader Academy courses. The web-based resource center has unlimited potential for leader development support.

The Nursing Leader Academy is grounded in the Patient CaringTouch System, guided by nursing competencies, and gauged by the Leader Capabilities Map. Academy courses are organized in 3 main blocks (Figure 3). Block A consists of courses that address the tactical level of leadership on the Leader Capabilities Map. Block A courses equip Army Nursing Leaders to execute the Patient CaringTouch System. An example of the specific leader behavior targeted for development in a Block A course would be for the nurse to execute the vision or Patient CaringTouch System by first understanding, then incorporating clinically, followed by demonstrating ability to articulate specific job functions that support the Patient CaringTouch System. Block B consists of courses that address the corresponding Leader Capabilities Map operational level of leadership. These courses equip Army Nursing Leaders to lead a team in the Patient CaringTouch System. An example of the specific leader behavior targeted for development in Block B is under foundational thinking: interpret the vision. At the operational level, nursing leaders will receive the vision and communicate at all levels, then provide feedback to strategic leaders on relevancy of the vision to tactical execution, and finally identify key stakeholders and incorporate feedback into the vision. Block C aims for the strategic level with courses which prepare the nursing leader to lead teams of teams. An example of a nursing leader behavior targeted for development at this level is, again, under foundational thinking: provide visionary thinking or develop realistic, credible, and attractive organizational vision. The Block C level courses equip the strategic level leader to evaluate strategic environment and develop clear vision for the organization, consistently communicate the vision, ensure its relevance to organizational mission and the external environment, and foster creativity in other leaders' ability to identify strengths and weaknesses of

*Available at: https://www.us.army.mil/suite/page/618697 (restricted access)

	Tactical/Direct	Operation/Organizational	Strategic
Foundational Thinking	Executes the vision. Demonstrates unit-level evidence-based decision making. Develops and expresses awareness.	Interprets the vision. Critically analyzes organizational issues. Is mindful of self and others when influencing change.	Provides visionary thinking or develops realistic, credible, attractive organizational vision. Critically analyzes strategic issues to drive policy. Uses adaptive leadership to affect transformational change.
Personal Journey Disciplines	Seeks direct feedback and adjusts accordingly. Applies new knowledge at work. Learns from setbacks and failures as well as successes. Sets initial personal, professional, and career goals. Identifies positive role models and seeks advice.	Integrates feedback from multiple sources. Shares new knowledge to benefit the organization. Applies lessons learned. Establishes and implements plan to achieve goals. Establishes mentoring relationships with respected role models.	Values diverse perspectives and integrates into the enterprise decision making. Develops and supports a culture of inquiry. Uses lessons learned to effect change. Defines and adjusts goals and plans; role models balance between professional and personal life. Expands professional community and mentors others.
Systems Thinking	Understands unit level processes and the inter-relatedness of interdisciplinary roles, functions, and responsibilities. Expresses and builds concern for unit's success. Understands unit goals in concert. with the Commander's lines of effort Responds to divergent inputs and chooses best practices.	Understands organizational processes and their inter-relatedness. Takes responsibility for building loyalty and commitment throughout organization. Aligns section goals in concert with Commander's lines of effort. Assimilates knowledge and integrates divergent viewpoints.	Promotes and values systems thinking within and across healthcare systems. Inspires loyalty and commitment. Aligns organizational goals with the AMEDD and Army's balanced scorecard and the current geopolitical environment. Synthesizes and adapts internal and external viewpoints for the good of the organization.
Succession Planning	Self motivated and motivates others. Develops a succession plan for own position. Prepares self for next leadership level. Identifies and develops talent in staff.	Inspires, motivates, and guides others towards mission accomplishment. Develops succession plans for subordinate positions in addition to own position. Prepares self for next leadership level and provides opportunities for staff preparation. Identifies and supports the development of talents in staff and matches talents to positions.	Intrinsically motivated to lead organizations; envisions the future with creative solutions. Manages and supports the execution of succession planning for system, profession, self and subordinates. Actively participates in, or self-nominates for next leadership level. Matches talents to jobs, roles or assignments.
Change Management	Identifies gaps in unit processes. Utilizes evidence-based theoretical framework to initiate unit change. Adapts to changes and contingencies in transforming environments. Suggests and is receptive to innovations.	Identifies gaps in organizational processes and develops resolutions. Utilizes evidence-based theoretical framework to implement, manage, and evaluate outcomes at the organizational level. Assesses and evaluates the environment to cultivate change to transform the organization. Fosters and facilitates an environment conducive to innovation.	Evaluates the need for organizational change and guides implementation Provides the strategic environment that fosters change and innovation. Conveys the strategic and operational objectives of the Army and Department of Defense. Supports creativity for positive change and evaluates outcomes.
Education	BOLC, AOC/ASI Course, JECC, C4, ACCC Graduate Course Work	ILE, Clinical Masters, Anesthesia School, Baylor HCA	Senior Service College, Interagency Course, AMEDD Executive Skills, PhD, DNP
Duty Positions	Staff Nurse, Charge Nurse, Clinical Nurse OIC Faculty/Instructor, TOE Staff/Charge Nurse, AMEDD Recruiter, ROTC Nurse Counselor, Division Nurse	Section/Department Chief, MEDCEN Clinical Nurse OIC, Course Director, Staff Officer	Deputy Commander for Nursing, Hospital Commander, Senior Staff Officer, OTSG Consultant
Time in service (yr)	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 ➔		
Rank	2LT 1LT CPT MAJ LTC COL BG, MG, LTG, GEN		

Figure 2. The Army Nursing Leader Capabilities Map, showing the relationship between the professional capabilities, time in service, and military grade throughout a career.
Glossary: ACCC-Army Captains Career Course; AOC/SI-Area of concentration/Additional skill identifier; C4-Combat Casualty Care Course; HCA-Healthcare Administration; ILE-Intermediate level education; JECC-Joint Enroute Care Course; MEDCEN-Medical center; BOLC-Basic Officer Leader Course; OIC-Officer-in-charge; OTSG-Office of The Surgeon General; ROTC-Reserve Officer Training Corps; TOE-Table of organization and equipment

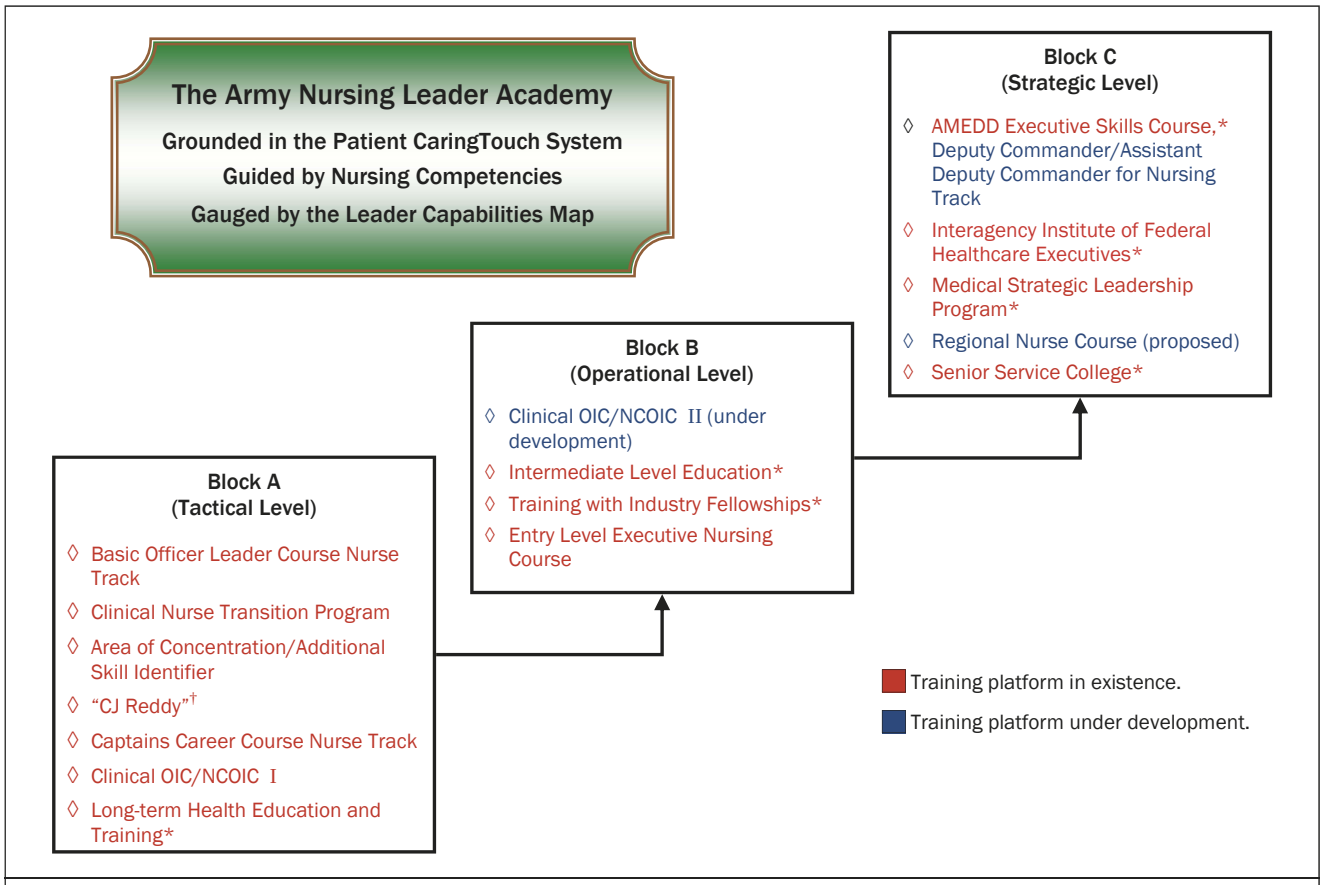


Figure 3. The organization and hierarchy of training programs and courses available through the Army Nursing Leader Academy.
*Training not provided by the Dept of Nursing Science, AMEDDC&S.
†CJ Reddy is an annual Army Nurse Corps conference for junior officers who are competitively selected for participation.

subordinate leaders. Blocking the courses in this way enables the Corps to use the Leader Capabilities Map to gauge/measure the desired leader development impact.

Career-long nurse leader learning begins at the portal of entry, the Basic Officer Leader Course (BOLC) Nurse Track. The BOLC Nurse Track is designed to introduce the new nurse to the Patient CaringTouch System. Beginning with the Corps Chief's vision and continuing on through every element and component of the Patient CaringTouch System, the learner leaves with an introductory experience that prepares them for the follow-on clinical practicum, the BG(R) Anna May Hays Clinical Nurse Transition Program (CNTP), the 24-week standardized transition program that pairs newly graduated nurses with trained preceptors. At the completion of CNTP, nurses begin their practice as tactical leaders of the Patient CaringTouch System. During this period, they revisit the Leader Academy, stepping in and out of it as needed. Progressive opportunities include attendance at one of the Army Nursing specialty courses and continuing nursing education to the masters' level. The Captains' Career Course (CCC) Nurse Track represents another opportunity to check back in with the Academy. Attendees will find that the CCC Nurse Track now offers nursing context to the operational/deployment principles that they have learned in the non-Corps specific portion of the CCC. Block A (tactical level) is topped off with the completely redesigned Clinical Nurse OIC and Clinical NCOIC I course. For the first time, Clinical Nurse OIC (CNOIC) and Clinical NCOIC (CNCOIC) teams are attending training geared to their assigned level of leadership together, reinforcing the absolutely critical teamwork aspect of effective healthcare delivery.

Block B (operational level) begins with the web-based CNOIC/CNCOIC II course. Recognizing that management and leader skills increase with span of control and complexity, a second CNOIC/CNCOIC II course is being developed. As with the existing course, the

additional course is being designed as a web-based course so that nurses can stay at their unit of assignment, embedded in context as they apply the methods learned in the course. This is also the time in an officer's career when he or she attends intermediate level education and could be selected for training with industry fellowships. Finally, Block B culminates with the Entry Level Executive Nursing Course, a redesign of the former Advanced Nursing Leader Course. One major difference is that the redesigned course now includes a 5-day resident phase in addition to the distributive learning phase. Each topic has been carefully mapped to the competencies necessary to make the leap from operational level leader to strategic level.

Block C (strategic level) addresses the Army Nursing leader who is at the assistant or deputy commander of nursing or equivalent level. This block contains a series of sequential courses designed to prepare the nurse for regional leadership. At this point, selected nurses are attending Interagency Institute of Federal Healthcare Executives sessions and medical strategic leadership programs. The final course, now under development, in the Army Nursing Leader Academy will target the regional leader.

SUMMARY

Since its inception in 2008, the Army Nursing Leader Academy has had approximately 3,792 encounters to produce full-spectrum leaders in support of Army Medicine. The Army Nursing Leader Academy was intentionally structured such that, in response to the emergency of new missions, it can be adjusted and reoriented to continue to produce full-spectrum leaders who are adaptive to any conditions-based mission. The Army Nursing Leader Academy is one way that Army Nursing is wrapping capability around Army Medicine goals and objectives.

REFERENCES

1. *TRADOC Pamphlet 525-8-2: The US Army Learning Concept for 2015*. Fort Monroe, VA: US Army Training and Doctrine Command, US Dept of the Army; June 6, 2011 [updated issue]. Available at: http://www.tradoc.army.mil/tpubs/pams/tp525-8-2_CH1.pdf.
2. Alleyne J, Jumaa MA. Building the capacity for evidence-based clinical nursing leadership: the role of executive co-coaching and group clinical supervision for quality patient services. *J Nurs Manag*. 2007;15 (2):230-243.
3. MacMillan-Finlayson S. Competency development for nurse executives. *J Nurs Adm*. 2010;40(6):254-257.
4. Wolk GA, Bradle J, Greenhouse P. Investment in the future: a 3-level approach for developing the healthcare leaders of tomorrow. *J Nurs Adm*. 2006:36(6):331-336.
5. Medland J, Stern M. Coaching as a Successful Strategy for Advancing New Manager Competency and Performance. *J Nurses Staff Dev*. 2009;25(3):141-147.
6. Luecke R, Ibarra H. *Coaching and Mentoring: How to Develop Top Talent and Achieve Stronger Performance*. Boston, MA: Harvard Business School Press; 2004.
7. Rothstein MG, Burke RJ, eds. *Self-Management and Leadership Development*. Northhampton, MA: Edward Elgar Publishing Limited; 2010.
8. AONE Nurse Executive Competencies. Association of Nurse Executives Web site. Available at: http://chhs.gmu.edu/pdf%20files/office_of_academic_outreach/pdf/2010-NAL-AONE.pdf. Accessed May 24, 2011.
9. Jacobs HH, Johnson A. *The Curriculum Mapping Planner: Templates, Tools, and Resources for Effective Professional Development*. Alexandria, VA: ASCD; 2009.

AUTHORS

COL (Ret) Dunemn is an Associate Professor, University of Northern Colorado, Greeley, Colorado.

COL Hopkins-Chadwick is Chief, Department of Nursing Science, AMEDD Center and School, Fort Sam Houston, Texas.

COL Connally is Deputy Chief, Department of Nursing Science, AMEDD Center and School, Fort Sam Houston, Texas.

COL Bramley is Chief, Nursing Division, General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

Leader Development Transformation in the Army Nurse Corps

MAJ Tamara S. Funari, AN, USA
COL Kathleen Ford, AN, USA
COL Bruce A. Schoneboom, AN, USA

Abstract

The Army Nurse (AN) Corps is undergoing a historic transformation. Under the leadership of its Chief, MG Patricia Horoho, the Corps developed and implemented the AN Campaign Plan to ensure that the Corps has the right capability and capacity to meet the current and future needs of the US Army.

This article describes the work conducted by the AN Corps Leadership Imperative Action Team (Leader IAT) to develop full-spectrum leaders for the future. The mission of the Leader IAT is derived from both the AN Campaign plan as well as the operational objectives defined in the AN balanced scorecard. As a result of the analysis conducted during preparation of the AN Campaign Plan, several key gaps were identified regarding the Army Nurse Corps' ability to match leadership talents with the diverse demands of current missions, as well as its adaptability and flexibility to be prepared for unknown future missions. This article also introduces the Leadership Capability Map and other initiatives implemented to ensure the development of full-spectrum leaders who will be effective in the future military healthcare environment.

Introduction

The Army Nurse Corps is undergoing a historic transformation. The Corps has always been a key component of the Army Medical Department (AMEDD), providing essential delivery of quality, state-of-the-art nursing care to Soldiers and beneficiaries in garrison and deployment settings across the globe. However, the time had come to reevaluate the Corps' "corporate" principles and to ensure alignment with the strategic visions of the Army Chief of Staff (CoS) and The Surgeon General. The Army Nurse Corps Campaign Plan* has been developed and implemented to ensure that the Corps has the right capability and capacity to meet the current and future needs of the US Army. One essential component of Army Nursing is leader development, aligning with Army CoS vision of developing adaptable leaders that have the capability to lead across the full spectrum of operations, depicted in Figure 1. Understanding the operational environment and demonstrating adaptiveness and flexibility in ambiguous and adverse conditions are crucial leader competencies necessary to achieve tactical, operational and strategic mission success.[1]

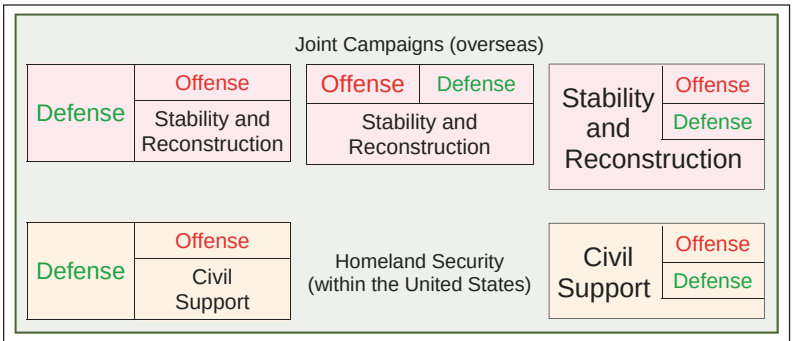


Figure 1. Army forces conduct 3 types of operations—offensive, defensive, stability and reconstruction—as part of overseas joint campaigns. Army forces conduct civil support, offensive, and defensive operations in support of homeland security. The mission dictates which type of operation predominates. Source: *Field Manual 3-0*[1]

The AMEDD plays a major role in every aspect of full-spectrum operations. Soldiers cannot conduct operations without the healthcare team in place and ready with the skills and competencies to maintain or restore their health. Regardless of the type of operation or lead element, Army Nurses play a critical role in delivering high-quality patient care that contributes greatly to improved survival for wounded Soldiers, Marines, Sailors, and Airmen. Army Nurses are leading the way in all types of diverse settings, from planning and leading strategic operations during complex base realignment and closure operations at major medical centers, to commanding hospitals and split operational

*See "Building the Army Nursing Campaign Plan" on page 10.

elements in the austere conditions of Afghanistan and other theaters where our military is engaged. Many Army Nurses are leading healthcare organizations in roles such as clinical nurse officers in charge (OICs), section supervisors, deputy commanders, and commanders in both garrison and field environments. For this reason, it is imperative that the Army Nurse Corps "builds the bench" with adaptive and innovative full-spectrum leaders.[2]

This article describes the work conducted by the Army Nursing Leadership Imperative Action Team (Leader IAT) to develop full-spectrum leaders for the future. The mission of the Leader IAT is derived from both the AN Campaign plan, as well as the operational objectives defined in the AN balanced scorecard.* As a result of the analysis conducted during preparation of the AN Campaign Plan, several key gaps were identified regarding the Army Nurse Corps' ability to match leadership talents with the diverse demands of current missions as well as its adaptability and flexibility to be prepared for unknown future missions. MG Patricia Horoho, the Chief of the Army Nurse Corps, made her intent very clear that actions must be taken to develop full-spectrum leaders through education, coaching, mentoring, and self-awareness strategies.[2] Her goal is to ensure that full-spectrum leaders have ongoing, sequential opportunities to build the necessary capabilities to contribute in a variety of AMEDD strategic priorities.

Background: The Basis for Change

Field Manual 6-22,[3] the Army's foundational document for leader doctrine, describes leaders as change agents and states that adaptive leadership is an essential characteristic for successful leadership. Adaptive leaders are needed for all units to successfully meet the full-spectrum operational mission. Leaders must be able to assess their environment, focus on key aspects of that environment, have the ability to change their leadership style and behaviors, and have the ability to motivate organizational change.[4] The former Chief of Staff of the Army, GEN (Ret) George W. Casey Jr, stressed the need for agile and adaptive leaders during his keynote address at the 2007 Association of the United States Army Annual Meeting:

> Lastly–agile/adaptive leaders. In this era of persistent conflict, it is absolutely essential that we can develop leaders who can handle the challenges of full-spectrum operation. Our leaders in the 21st century must be competent in their core competencies, brought up to operate across a full spectrum of conflict, able to operate a joint interagency and combined environments, at home and in other cultures, and courageous enough to see and exploit opportunities in the complex environments that they will be operating in.[5]

In 2008, MG Horoho told MAJ Tamara Funari, then a student at Command and General Staff College, "We need to build our bench with adaptive and resilient nurse leaders; if you are interested in this topic, I would like for you to explore it" (oral communication, August 2008). In October 2008, the first Army Nursing Campaign Planning conference was held. The document produced at this conference detailed MG Horoho's 4 strategic objectives. Among these four was leader development. Her vision was to set the foundation for a continued legacy of excellence by integrating a succession plan that would create full-spectrum leaders who would be adaptive, provide a persuasive voice for communicating with key leaders in the AMEDD, and create innovative doctrine that would be a persistent and sustainable guide for full-spectrum leader development.[6]

A qualitative descriptive study was conducted by MAJ Funari in direct response to the Corps Chief's guidance as part of a master's thesis[7] at the Command and General Staff College in 2008. The study examined the Army Nurse Corps Lifecycle Model and explored the meaning of full-spectrum operations as it relates to the AMEDD and nursing. Themes from this study illustrated a need for revising leadership education, training, and developmental pathways, as well as the importance of selecting individuals with the right capabilities for the positions to which they are assigned. The qualities of an adaptive leader were explored and surfaced as a major theme in the area of needed development in the Army Nurse Corps. As a result, the following definition of the Adaptive Army Nurse Leader was approved by MG Horoho:

> An adaptive ANC leader is one who is a clinical expert and can alter leadership styles to be effective across the horizontal and vertical organizational structures to meet

*The balanced scorecard is a strategic planning and management system used to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organizationally performance against strategic goals. Source: The Balanced Scorecard Institute (Cary, NC). Information available at: http://www.balancedscorecard.org/Home/tabid/36/Default.aspx

> the full-spectrum operational mission. The adaptive leader is effective in both garrison and austere deployment environments. The adaptive ANC leader must be knowledgeable in Army and Joint doctrine, must understand the strategic and operational objectives of the Army, and have the ability to view problems holistically and turn ambiguous challenges into opportunities.[4]

The Leader IAT has explored other areas[4]:

- The lifecycle model and its usefulness in guiding nurses across the career spectrum.
- The process for selecting nurses for clinical nurse officer-in-charge positions focusing on leadership competencies and characteristics.
- Back-to-basics campaign, encouraging Army Nurses to build a medical surgical nursing foundation prior to selecting a clinical specialty.
- New and innovative methods for coaching, teaching, and mentoring nurses and how to challenge them while providing a safe environment that facilitates growth.
- Analysis of current developmental education programs to ensure appropriate leadership education is integrated and builds upon previous level.[4]

Leadership Imperative Action Team

Parallel to the previously described study in progress, the Leader IAT was chartered in October 2008 to redefine Army Nursing leadership development in order to meet the complexities of current and future strategic requirements. The Army Nurse Corps needs clinical leaders who understand how to tactically manage healthcare delivery and strategically manage increasingly complex systems of health. The team was to address the first objective in the Army Nursing campaign plan:

> Leader Development – Build our bench: a persistent, sustainable nurse leader succession plan created full-spectrum leaders who were adaptive to any conditions-based mission; provided a persuasive voice at key echelons of influence in the AMEDD, and innovated doctrine to blueprint the future of the Army Nurse Corps.[6]

Comprised of specially selected active duty, reserve, retired, and noncommissioned officers, as well as senior civilian nurses from across the AMEDD, the team's strategic objective was to devise a sustainable nurse leader succession plan creating full-spectrum leaders, adaptive to any conditions-based mission. The operational objectives tasked to the Leader IAT:

- LD 1.0 – Full-spectrum Leaders: Provide appropriate nursing capability and capacity in support of the Army CoS and The Surgeon General's strategic objectives.
- LD 1.A – Leader Succession Plan: Develop and execute a leader succession plan that ensures sustainable mission capabilities.
- LD 1.B – Leader Training and Development: Align training requirements with "Train as you Fight" doctrine to ensure future capability that supports AMEDD missions.

Operational tasks accomplished were in direct alignment with the Army Nurse Corps balanced scorecard operational objectives.

Early work of the Leader IAT included adoption of the American Organization of Nurse Executives (AONE) core leadership domains and nurse executive competencies[8] (shown in the Table) and the approved Adaptive Army Nurse Leader definition as the foundation for a capabilities-based leader development model for the Army Nurse Corps.

The definition of the Adaptive Army Nurse Leader was studied by the Leader IAT and used to develop the approved definition of the Adaptive Clinical Nurse officer-in-charge (OIC)/noncommissioned officer-in-charge (NCOIC) (Figure 2). The title clinical nurse OIC/NCOIC replaced the titles head nurse and ward master, better aligning these positions to the Army command structure.

Continued Leader IAT work included development of the Army Nursing Leader Academy* as a career-long leadership development resource center to support succession planning and leader development across the lifecycle, initially for Army Nurses then for civilian nurses. Using the AONE framework and Army Leader doctrine to guide them, the Leader IAT developed a Clinical Nurse OIC position description, provided position coding recommendations for various Clinical Nurse OIC positions (ie, levels I and II), and drafted a standardized competency tool to support development

*See article "Designing and Implementing the Army Nursing Leader Academy" on page 18.

and assessment of required leadership competencies. As a result of the first 2 years of effort of the Leader IAT, the Army Nurse Corps was able to significantly advance the Corps Chief's strategic vision by laying a theoretical foundation of nursing leadership capabilities and the structure for building coursework to support leadership skill development for Army Nursing, beginning with the tactical leader.

The American Organization of Nurse Executives core leadership domains and nurse executive competencies.

Core Leadership Domains	Nurse Executive Competencies
Communication and relationship building	Effective communication, relationship management, influence of behaviors, ability to work with diversity, shared decision making, medical staff relationships, academic relationship, community involvement.
Knowledge of the health care environment	Clinical practice knowledge, patient care delivery models and work design knowledge, health care economics knowledge, health care policy knowledge, understanding of governance, understanding of evidence-based practice, outcomes measurement, knowledge of and dedication to patient safety, understanding of utilization management, knowledge of quality improvement and metrics, knowledge of risk management.
Leadership	Foundational thinking skills, personal journey disciplines, the ability to use systems thinking, succession planning, change management.
Professionalism	Personal and professional accountability, career planning, ethics, evidence-based clinical and management practice, advocacy for the clinical enterprise and for nursing practice, active membership in professional organizations.
Business skills	Understanding of health care financing, human resource management and development, strategic management, marketing, information management and technology.

STRUCTURED APPROACH TO CHANGES IN ARMY NURSING LEADER DEVELOPMENT: THE WAY AHEAD

In May 2010, the Leader IAT was directed to complete the last 2 operational tasks of the ANC balanced scorecard: develop a new lifecycle model for the Army Nursing that is focused on capabilities rather than roles and assignments, and reevaluate and adjust the Army Nursing Leader Academy coursework to ensure that every course directly contributed to the development of desired competencies as reflected on the lifecycle model. As a result of their efforts, the Army Nursing Leader Capabilities Map (AN LCM) (Figure 3) replaced the legacy Army Nurse Corps Lifecycle Model (Figure 4).[7]

The AN LCM transformed the previous linear approach to developing and progressing leaders forward through leader levels (based on schools attended, promotions received, and positions held) to progression focused on the achievement of expected skills, knowledge, and behaviors. The emphasis on capabilities is transformative as it allows officers of all ranks to make an informed career journey, with every capability they achieve increasing their ability to contribute full-spectrum leadership skills to any mission. Rather than the "check the block" approach of the legacy AN Lifecycle Model, the AN LCM focuses on the outcome of capability development. The present generation of nurses is technologically proficient at an early age, therefore, a fully interactive, computerized tool was developed. Highlights of the AN LCM include integration of all of the key AONE leadership's dimensions with distinct interpretation for each of 3 Army Leader levels (tactical, operational, and strategic); clear guidance depicting tasks, standards, schooling, and job experiences that may contribute to the achievement of each capability; and an interactive web model* that allows an individual the opportunity to explore and assess their own leader capabilities. Objectives necessary to grow as an adaptive Army Nurse leader are linked to each capability at the tactical, operational, and strategic levels of leadership and performance. Choosing any of the objectives will produce a list of measurable goals to guide the officer in developing a road map to achieve that objective.

Adaptive Clinical Nurse Officer-in-Charge and Noncommissioned Officer-in-Charge

An adaptive, clinically proficient nurse/medic leader (manager) who effectively coaches, motivates, and leads a unit level team in full-spectrum operations. Knowledgeable and supportive of organizational mission, vision, and goals to promote evidence-based patient/family centered care. Views problems holistically and turns ambiguous challenges into opportunities.

Figure 2. The approved definition of Adaptive Army Clinical Nurse Leader which was developed by the Leader IAT.

*Available at: https://akosecured.detrick.army.mil/nurse/ako/ANLeadershipCapMAPinteractivefordMar2011.ppsx. (Note: restricted access)

	Tactical/Direct	Operation/Organizational	Strategic
Foundational Thinking	Executes the vision. Demonstrates unit-level evidence-based decision making. Develops and expresses awareness.	Interprets the vision. Critically analyzes organizational issues. Is mindful of self and others when influencing change.	Provides visionary thinking or develops realistic, credible, attractive organizational vision. Critically analyzes strategic issues to drive policy. Uses adaptive leadership to affect transformational change.
Personal Journey Disciplines	Seeks direct feedback and adjusts accordingly. Applies new knowledge at work. Learns from setbacks and failures as well as successes. Sets initial personal, professional, and career goals. Identifies positive role models and seeks advice.	Integrates feedback from multiple sources. Shares new knowledge to benefit the organization. Applies lessons learned. Establishes and implements plan to achieve goals. Establishes mentoring relationships with respected role models.	Values diverse perspectives and integrates into the enterprise decision making. Develops and supports a culture of inquiry. Uses lessons learned to effect change. Defines and adjusts goals and plans; role models balance between professional and personal life. Expands professional community and mentors others.
Systems Thinking	Understands unit level processes and the inter-relatedness of interdisciplinary roles, functions, and responsibilities. Expresses and builds concern for unit's success. Understands unit goals in concert. with the Commander's lines of effort Responds to divergent inputs and chooses best practices.	Understands organizational processes and their inter-relatedness. Takes responsibility for building loyalty and commitment throughout organization. Aligns section goals in concert with Commander's lines of effort. Assimilates knowledge and integrates divergent viewpoints.	Promotes and values systems thinking within and across healthcare systems. Inspires loyalty and commitment. Aligns organizational goals with the AMEDD and Army's balanced scorecard and the current geopolitical environment. Synthesizes and adapts internal and external viewpoints for the good of the organization.
Succession Planning	Self motivated and motivates others. Develops a succession plan for own position. Prepares self for next leadership level. Identifies and develops talent in staff.	Inspires, motivates, and guides others towards mission accomplishment. Develops succession plans for subordinate positions in addition to own position. Prepares self for next leadership level and provides opportunities for staff preparation. Identifies and supports the development of talents in staff and matches talents to positions.	Intrinsically motivated to lead organizations; envisions the future with creative solutions. Manages and supports the execution of succession planning for system, profession, self and subordinates. Actively participates in, or self-nominates for next leadership level. Matches talents to jobs, roles or assignments.
Change Management	Identifies gaps in unit processes. Utilizes evidence-based theoretical framework to initiate unit change. Adapts to changes and contingencies in transforming environments. Suggests and is receptive to innovations.	Identifies gaps in organizational processes and develops resolutions. Utilizes evidence-based theoretical framework to implement, manage, and evaluate outcomes at the organizational level. Assesses and evaluates the environment to cultivate change to transform the organization. Fosters and facilitates an environment conducive to innovation.	Evaluates the need for organizational change and guides implementation Provides the strategic environment that fosters change and innovation. Conveys the strategic and operational objectives of the Army and Department of Defense. Supports creativity for positive change and evaluates outcomes.
Education	BOLC, AOC/ASI Course, JECC, C4, ACCC Graduate Course Work	ILE, Clinical Masters, Anesthesia School, Baylor HCA	Senior Service College, Interagency Course, AMEDD Executive Skills, PhD, DNP
Duty Positions	Staff Nurse, Charge Nurse, Clinical Nurse OIC Faculty/Instructor, TOE Staff/Charge Nurse, AMEDD Recruiter, ROTC Nurse Counselor, Division Nurse	Section/Department Chief, MEDCEN Clinical Nurse OIC, Course Director, Staff Officer	Deputy Commander for Nursing, Hospital Commander, Senior Staff Officer, OTSG Consultant
Time in service (yr)	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 ➔		
Rank	2LT 1LT CPT MAJ LTC COL BG, MG, LTG, GEN		

Figure 3. The Army Nursing Leader Capabilities Map, showing the relationship between the professional capabilities, time in service, and military grade throughout a career.
Glossary: ACCC-Army Captains Career Course; AOC/SI-Area of concentration/Additional skill identifier; C4-Combat Casualty Care Course; HCA-Healthcare Administration; ILE-Intermediate level education; JECC-Joint Enroute Care Course; MEDCEN-Medical center; BOLC-Basic Officer Leader Course; OIC-Officer-in-charge; OTSG-Office of The Surgeon General; ROTC-Reserve Officer Training Corps; TOE-Table of organization and equipment

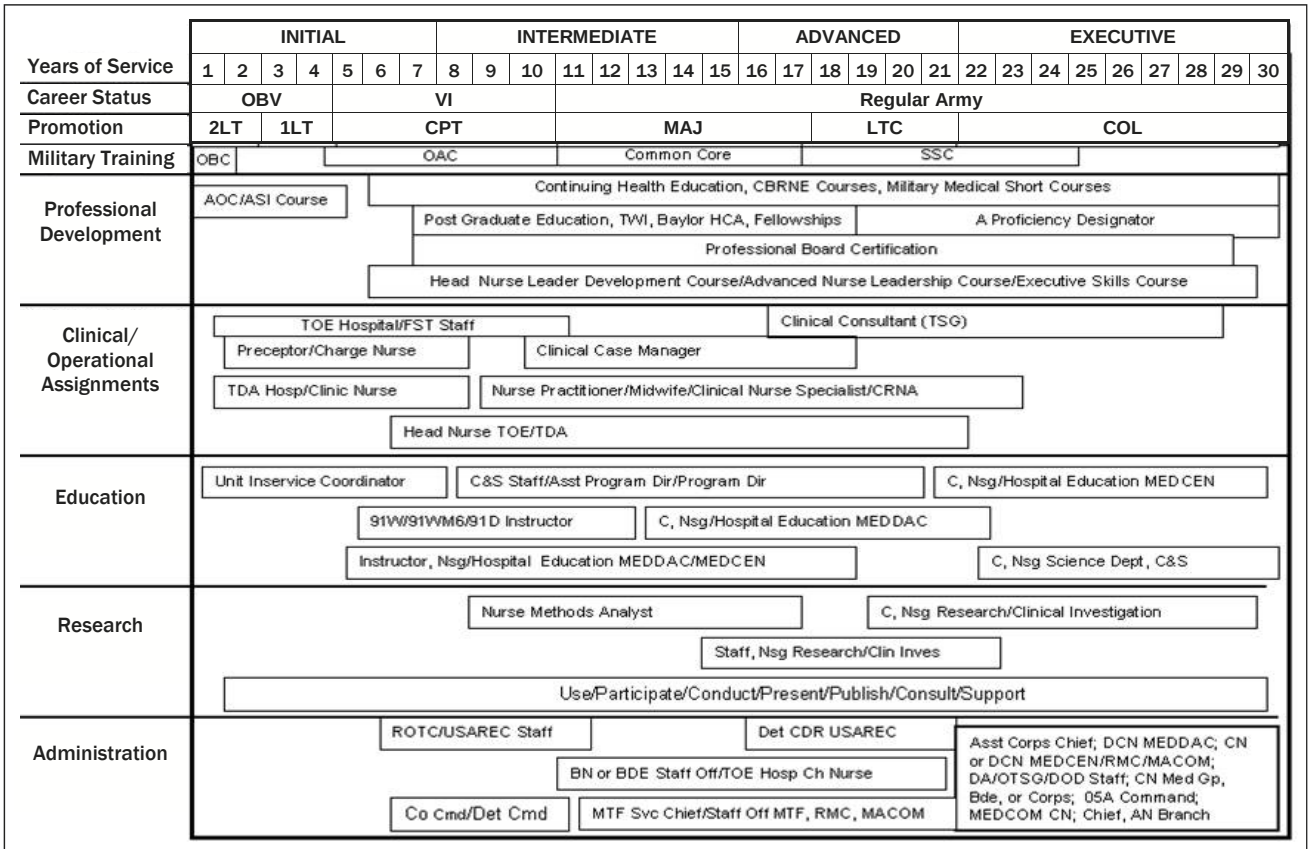


Figure 4. The legacy Army Nurse Corps Lifecycle Model which has been replaced by the Army Nursing Capabilities Map.

Glossary

AN - Army Nurse
BDE - Brigade
CBRNE - Chemical, biological, radiological, nuclear, explosive
C, Nsg - Chief nursing
DOD - Dept of Defense
HCA - Health care administration
MTF - Medical treatment facility
OBV - Obligated volunteer
ROTC - Reserve Officer Training Corps
TOE - Table of organization & equipment
USAREC - US Army Recruiting Command
AOC - Area of concentration
BN - Battalion
DA - Dept of the Army
FST - Forward surgical team
MACOM - Major command
OBC - Officer basic course
OTSG - Office of The Surgeon General
SSC - Senior service college
TSG - The Surgeon General
VI - Voluntary indefinite
ASI - Additional skill identifier
C&S - Center & School
CN - Chief nurse
DCN - Deputy commander for nursing
GP - Group
MEDCEN - Medical Center
OAC - Officer advanced course
RMC - Regional medical command
TDA - Table of distribution & allowances
TWI - Training with industry

The AN LCM is intended for use as a coaching and evaluation tool as well as a self-development tool. Additionally, it will assist leaders in the identification of elite performers with exemplary potential. Early identification of high-level talent early is important so that the Army Nurse Corps may fill capability gaps by providing the right leader training and development to these officers.[9] The individual Army Nurse can tailor the life-cycle to meet their own learning requirements as they progress toward the executive or strategic leadership levels. This allows officers of the same rank to be at different points on the LCM.

The interactive AN LCM draft was completed in December 2010 and was staffed through the Regional Nurse Executives for both their input and their subordinates' input. The final approved version was posted by the Corps Chief on her Army Nurse Corps blog on May 18, 2011.[9]

The AN LCM is introduced to new AN officers during the Basic Officer Leader Course. Courses at all levels of the AN Leader Academy use the AN LCM to guide the development of future AN leaders in the Active Army, the Reserves, and the Civilian Corps.

Following completion and approval of the AN LCM, the Leader IAT tackled their second priority of evaluating and adjusting the AN Leader Academy core coursework to ensure that the program of instruction and individual learning elements all directly linked to desired Army Nursing leader capabilities. The team partnered with the AMEDD Center & School Department of Nursing Science to examine the curriculum of

the Basic Officer Leaders Course, Captain's Career Course, Clinical Nurse OIC Course, and Advanced Nurse Leadership Course. They completed an analysis of the content, then cross-referenced that content against both the AN LCM Capabilities and elements of the Patient CaringTouch System (then called the Army Nursing System of Care) to ensure that every offering contributed to leader development. As a result, courses were revised and content formatted in a comprehensive, sequenced fashion to promote progressive capability development across the career lifecycle. One key change implemented was the reorganization of the Clinical Nurse OIC course into 2 separate courses, gearing the level I course to tactical level leaders and the level II course towards OICs who would be leading a staff of 50 or more personnel.

Conclusion

The Army Nurse Corps has implemented many changes to facilitate the development of nurse leaders. This article describes the work conducted by the Army Nurse Corps Leader IAT to develop full-spectrum nursing leaders who are prepared for future military healthcare environments. Over the past 3 years the Leader IAT has been diligent and successful in accomplishing all 3 operational tasks assigned and completing the ANC balanced scorecard objectives. Currently the Leader IAT is developing a strategic marketing plan to facilitate current leaders' knowledge of the Leadership Capability Map and an education program to maximize its intended utilization. Together with the Department of Nursing Science and the Army Nursing Leader Academy, the Leader IAT continues its work to ensure the development of future full-spectrum Army Nursing leaders. As the military operational environment evolves, continued research and development will be needed to allow the Army Nurse Corps to continue development of full-spectrum leaders who will be effective in new and ambiguous environments.

References

1. *Field Manual 3-0: Operations*. Washington, DC: US Dept of the Army; February 27, 2008.
2. Horoho PD. Adaptive and innovative nurse leaders. Army Nurse Corps Blog. August 28, 2010. Available at: https://blog.amedd.army.mil/nurse/?Page=PostViewMulti&displayMonthlyArchives=August%26nbsp%3B2010&month=8&year=2010. Accessed December 14, 2010.
3. *Field Manual 6-22: Army Leadership - Competent, Confident, and Agile*. Washington, DC: US Dept of the Army; October 12, 2006.
4. Funari TS, Gentzler K, Wyssling PW, Schoneboom BA. Building adaptive nurse leaders for future Army full spectrum operations. *Mil Med*. 2011;176:186-191.
5. Casey GW Jr. General George W. Casey, Jr.'s Eisenhower Luncheon Address at AUSA Annual Meeting. Association of the United States Army Web site. October 15, 2007. Available at: http://www3.ausa.org/webpub/DeptHome.nsf/byid/WEBP-77ZUXW. Accessed December 14, 2010.
6. US Army Nurse Corps. The Army Nurse Corps Campaign Plan. Available at: http://armynursecorps.amedd.army.mil/campaign/campaignplanonwebpagemarch09.pdf. Accessed December 14, 2010.
7. Funari TS. *Building Adaptive Nurse Leaders forFuture Army Full Spectrum Operations* [master's thesis]. Fort Leavenworth, KS: US Army Command and General Staff College; 2009. Available at: http://cgsc.contentdm.oclc.org/utils/getfile/collection/p4013coll2/id/2482/filename/2533.pdf. Accessed August 17, 2011.
8. AONE Nurse Executive Competencies. Association of Nurse Executives Web site. Available at: http://chhs.gmu.edu/pdf%20files/office_of_academic_outreach/pdf/2010-NAL-AONE.pdf. Accessed May 24, 2011.
9. Horoho PD. The Army Nursing Leader Academy. Army Nurse Corps Blog. May 18, 2011. Available at: https://blog.amedd.army.mil/nurse/?Page=PostViewMulti&displayMonthlyArchives=May%26nbsp%3B2011&month=5&year=2011. Accessed May 24, 2011.

Authors

MAJ Funari recently returned from deployment with the Task Force 86th Combat Support Hospital in Baghdad, Iraq. She is a Certified Clinical Nurse Specialist at Brooke Army Medical Center, Fort Sam Houston, Texas.

COL Ford is the Deputy Commander for Nursing, Fort Belvoir Community Hospital, Fort Belvoir, Virginia.

COL Schoneboom is the Army Nurse Corps Specific Branch Proponency Officer, AMEDD Center and School, Fort Sam Houston, Texas.

Human Capital Strategy: Talent Management

MAJ Michael Nagra, AN, USA

Abstract

Large organizations, including the US Army Medical Department and the Army Nurse Corps, are people-based organizations. Consequently, effective and efficient management of the human capital within these organizations is a strategic goal for the leadership. Over time, the Department of Defense has used many different systems and strategies to manage people throughout their service life-cycle. The current system in use is called Human Capital Management. In the near future, the Army's human capital will be managed based on skills, knowledge, and behaviors through various measurement tools. This article elaborates the human capital management strategy within the Army Nurse Corps, which identifies, develops, and implements key talent management strategies under the umbrella of the Corps' human capital goals. The talent management strategy solutions are aligned under the Nurse Corps business strategy captured by the 2008 Army Nurse Corps Campaign Plan, and are implemented within the context of the culture and core values of the organization.

Talent management broadly refers to a strategic human resources program which maximizes an organization's workforce productivity. The last 10 years have seen an emergence of this new field of talent management within a human capital strategy. This covers a range of human resource functions focused on attracting, retaining, managing, and developing a high-quality workforce. According to Hunt, talent management

> ...includes performance management, staffing, learning management, talent development, and succession planning. The growing interest in talent management is primarily a result of increased recognition of the impact talent management practices have on business growth and profitability and the role talent management plays for dealing with the shortage of skilled labor in the workforce.…Talent management is about getting the right people in the right jobs doing the right things.[1]

This requires predictions as to how people will act in the future, and then influencing them to act differently than they acted in the past.

Business Need

In 2008, MG Patricia Horoho, Chief, Army Nurse Corps, identified capability building as an important element in the transformation of Army Nursing. This need was identified under the Army Nursing Campaign Plan* (the organization's business strategy). In order to ensure that Army Nursing continues to be a force multiplier for the Army Medical Department (AMEDD), MG Horoho's priority was to transform Army Nursing into a patient-centric organization that provides world-class nursing care to all those entrusted to Army Nursing's care. To achieve this end, the Corps needed to relook at how it developed, retained, and managed the talent within the organization. In 2009, the Strategic Studies Institute (SSI) at the United States Army War College identified the need to once again relook at the human capital strategy, especially for the officer corps.[2] The SSI's position was enthusiastically supported by the Army's most senior leadership, including the Army Chief of Staff.

*See article "Building The Army Nursing Campaign Plan" on page 10.

Concept

Talent management is a mission critical process that ensures the Army Nurse Corps has the quantity and quality of leaders in place to meet the current and future AMEDD missions and priorities. Talent management covers all key aspects of an Army Nurse's life-cycle selection, development, succession, and performance management. To a large extent, the definition of talent management resembles those defined by a number of successful Fortune 500 organizations in the business world. The Army Nurse Corps also established a strategic talent management process which helps define the roles and expectations of the major stakeholders in a successful human capital strategy. Those stakeholders include the Army Nurse

Corps officers and their chain-of-command, the Corps Chief, the Army Nursing Advisory Council of senior leaders, and the Nurse Corps assignment officers and leadership at the Army Human Resource Command (HRC). The strategic talent management process directly impacts how future assignments are made throughout the Corps. The goal of the process is to allow the Corps to retain, develop, and manage those officers who have the right skill to accomplish current and future missions, especially those functions that are considered mission critical and mission essential. In the future, this officer talent management strategy will potentially be used to develop civilians and the Enlisted Corps leaders, as these groups are the foundation of the Army Nursing Triad. This strategic process facilitates the assignment officers at the HRC to change their current primary role of officer assignments and learning management to the practices of performance and competency management, succession planning, and leader development. These new business practices will allow the assignments process to fall in line with the primary goal of talent management. For example, an officer's rater and senior rater will provide direct input on their skills, knowledge, and behaviors (SKB) in order identify not only future potential, but also capability gaps that make the officer competitive for the new assignment. This marked shift in business practice allows a more objective assessment of the officer's performance and potential.

Talent management tools developed to assist in identifying an officer's capabilities and future potential.

Tool	Definition
Capability-Based Assignment (CBA)	CBA matches the skills, knowledge, and behaviors of an individual with the organizational strategy, goals, and mission in order to identify the individual best suited for a role.
Leaders Capability Map (LCM)	LCM incorporates an officer's capabilities, skills, knowledge, and behaviors (SKB) with their current performance and identifies those SKBs needed to perform at successively higher positions of increased responsibilities.
Performance-by-Potential Matrix (PxP)	PxP matrix is a way to assess a population of leaders on 2 important dimensions, their performance and their future potential. The matrix is used to evaluate an organization's talent pool to identify officers' capabilities to perform mission critical and mission essential functions.
Strategic Leadership Assessment (SLA)	The SLA is a way to quantify the SKBs to generate an objective profile of one or a group of officers. SLAs are generated for officers of the same rank within an MTF, and is updated regularly. It is also used to generate the PxP matrix during staff engagements.
Officer Evaluation Report (OER)	The OERs provide information about an officer's job performance in a rating period with relevant rater and senior rater comments.

Talent Management Tools

Under the talent management program, a number of tools, listed in the Table, were developed to identify capabilities and the future potential of an officer.

Capability-based Assignment

The capability-based assignment (CBA) method matches the skills, knowledge, and behaviors (acquired or developed) of an individual with the organizational strategy, goals, and mission in order to identify the individual who best fits a role. The CBA requirements are identified based on the mission and the type of organization. These requirements include generic as well as unique capabilities—the higher the match, the better suited an individual is for the role. Currently, the most familiar tool used by senior leaders and the HRC for identifying past and current performance is the Officer Evaluation Report (OER). It is well understood that direct input by an officer's immediate supervisor and his or her senior leadership in generating a talent profile has many advantages. For example, the collaborative efforts between the Deputy Commander for Nursing (DCN) and the HRC will:

- Allow the implementation of CBA.
- Identify high performers/high potentials for future key positions.
- Identify and facilitate succession planning for key positions to ensure a highly flexible and responsive Corps.
- Provide learning that is relevant and timely to ensure readiness for successive roles/positions.
- Develop leaders that reinforce enterprise values and the culture of talent.
- Allow HRC to align the talent management processes and human capital with the Corps' Campaign Plan, strategic goals, and the Patient CaringTouch System* of nursing delivery.

In 2010, the first-ever formalized CBA process was implemented with the colonel population within the Nurse Corps. The HRC has refined and continued this process in 2011, and will subsequently begin a similar process for lieutenant colonels.

*The Army Nursing model for standardization of nursing practice.

	Tactical/Direct	Operation/Organizational	Strategic
Foundational Thinking	Executes the vision. Demonstrates unit-level evidence-based decision making. Develops and expresses awareness.	Interprets the vision. Critically analyzes organizational issues. Is mindful of self and others when influencing change.	Provides visionary thinking or develops realistic, credible, attractive organizational vision. Critically analyzes strategic issues to drive policy. Uses adaptive leadership to affect transformational change.
Personal Journey Disciplines	Seeks direct feedback and adjusts accordingly. Applies new knowledge at work. Learns from setbacks and failures as well as successes. Sets initial personal, professional, and career goals. Identifies positive role models and seeks advice.	Integrates feedback from multiple sources. Shares new knowledge to benefit the organization. Applies lessons learned. Establishes and implements plan to achieve goals. Establishes mentoring relationships with respected role models.	Values diverse perspectives and integrates into the enterprise decision making. Develops and supports a culture of inquiry. Uses lessons learned to effect change. Defines and adjusts goals and plans; role models balance between professional and personal life. Expands professional community and mentors others.
Systems Thinking	Understands unit level processes and the inter-relatedness of interdisciplinary roles, functions, and responsibilities. Expresses and builds concern for unit's success. Understands unit goals in concert. with the Commander's lines of effort Responds to divergent inputs and chooses best practices.	Understands organizational processes and their inter-relatedness. Takes responsibility for building loyalty and commitment throughout organization. Aligns section goals in concert with Commander's lines of effort. Assimilates knowledge and integrates divergent viewpoints.	Promotes and values systems thinking within and across healthcare systems. Inspires loyalty and commitment. Aligns organizational goals with the AMEDD and Army's balanced scorecard and the current geopolitical environment. Synthesizes and adapts internal and external viewpoints for the good of the organization.
Succession Planning	Self motivated and motivates others. Develops a succession plan for own position. Prepares self for next leadership level. Identifies and develops talent in staff.	Inspires, motivates, and guides others towards mission accomplishment. Develops succession plans for subordinate positions in addition to own position. Prepares self for next leadership level and provides opportunities for staff preparation. Identifies and supports the development of talents in staff and matches talents to positions.	Intrinsically motivated to lead organizations; envisions the future with creative solutions. Manages and supports the execution of succession planning for system, profession, self and subordinates. Actively participates in, or self-nominates for next leadership level. Matches talents to jobs, roles or assignments.
Change Management	Identifies gaps in unit processes. Utilizes evidence-based theoretical framework to initiate unit change. Adapts to changes and contingencies in transforming environments. Suggests and is receptive to innovations.	Identifies gaps in organizational processes and develops resolutions. Utilizes evidence-based theoretical framework to implement, manage, and evaluate outcomes at the organizational level. Assesses and evaluates the environment to cultivate change to transform the organization. Fosters and facilitates an environment conducive to innovation.	Evaluates the need for organizational change and guides implementation Provides the strategic environment that fosters change and innovation. Conveys the strategic and operational objectives of the Army and Department of Defense. Supports creativity for positive change and evaluates outcomes.
Education	BOLC, AOC/ASI Course, JECC, C4, ACCC Graduate Course Work	ILE, Clinical Masters, Anesthesia School, Baylor HCA	Senior Service College, Interagency Course, AMEDD Executive Skills, PhD, DNP
Duty Positions	Staff Nurse, Charge Nurse, Clinical Nurse OIC Faculty/Instructor, TOE Staff/Charge Nurse, AMEDD Recruiter, ROTC Nurse Counselor, Division Nurse	Section/Department Chief, MEDCEN Clinical Nurse OIC, Course Director, Staff Officer	Deputy Commander for Nursing, Hospital Commander, Senior Staff Officer, OTSG Consultant
Time in service (yr)	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 ➔		
Rank	2LT 1LT CPT MAJ LTC COL BG, MG, LTG, GEN		

Figure 1. The Army Nursing Leader Capabilities Map, showing the relationship between the professional capabilities, time in service, and military grade throughout a career.
Glossary: ACCC-Army Captains Career Course; AOC/SI-Area of concentration/Additional skill identifier; C4-Combat Casualty Care Course; HCA-Healthcare Administration; ILE-Intermediate level education; JECC-Joint Enroute Care Course; MEDCEN-Medical center; BOLC-Basic Officer Leader Course; OIC-Officer-in-charge; OTSG-Office of The Surgeon General; ROTC-Reserve Officer Training Corps; TOE-Table of organization and equipment

Leaders Capability Map

An important tool developed by the Nurse Corps is the Leaders Capability Map (LCM), shown at Figure 1. The LCM incorporates the older life-cycle model for Nurse Corps officers with capabilities depending on the officer's SKBs. The older life cycle model was static and rigid, and based on rank rather than capability. The LCM allows the flexibility to have officers move in and out of each of the 3 levels, depending on the role and capability of future assignments. The objectives, scopes of responsibilities, and the level of SKBs required to achieve these objectives will increase at each subsequent level. When correctly used, the LCM allows the officer's capabilities to be matched with their current performance and function. The officer is made aware of any identified capability gap. In addition, the LCM is used as a tool to identify those SKBs needed to perform at higher levels, as well as for successive positions of increased responsibilities. The LCM also identifies education and training needs, and any stretch goals an officer will require to prepare for successive roles. While training on the correct use of LCM is being provided at the Army Nursing Leader Academy,* this tool is now being used actively throughout the Corps.

Performance-by-Potential Matrix

The Performance-by-Potential Matrix (PxP), an example of which is presented in Figure 2, is a simple way to assess a population of leaders on 2 important dimensions, their performance and their future potential. The matrix is used to evaluate an organization's talent pool and facilitates a dialogue amongst the Corp's senior leadership to assess an officer's capabilities to perform mission-critical and mission-essential functions. For example, the Corps Chief and a Regional Nurse Executive, with input from the HRC, may use the matrix to identify the next DCN at a medical activity. The stakeholders use the matrix to calibrate their expectations and ratings of one or more potential candidates, while allowing an open debate with multiple perspectives to end with a more accurate assessment. The use of the matrix facilitates a shared sense of ownership for the organization's talent pool, and is the most practical and objective way to identify the right talent as well as any developmental needs. In the notional PxP matrix shown in Figure 2, 10 colonels were assessed and placed in the 9 grids. The grids for both elements, performance, and potential are categorized from average to exceptional. The population is broken into a 10%–80%–10% profile to match the current OER rating profile. The best officers (maximum of 10%) are placed in the top right-most grid of the PxP Matrix (Exceptional Performance and Exceptional Potential). Conversely, 10% of the population will fall in the bottom left grid (Average Performance and Average Potential). Similar profiles are created for each rank within each facility. During calibration meetings, the PxP Matrix profile for an officer is matched or calibrated with the profile at HRC to ensure subjectivity and personal opinions are minimized.

NOTIONAL REGION
LTC (P) – COL POPULATION (10)

PERFORMANCE	POTENTIAL: Average Potential	POTENTIAL: High Potential	POTENTIAL: Exceptional Potential
Exceptional Performance (10% Population)	COL Alpha LTC (P) Juliet COL Tango	COL Foxtrot	COL Delta
High Performance (80% Population)	COL Charlie COL Bravo	LTC (P) Yankee COL Golf	
Average Performance (10% Population)	LTC (P) Oscar		

Performance: Based on current OERs, assignments, education (leaders capability map)
Potential: Based on OERs, interviews, RNE input on behaviors, leaders capability map, Human Resources officer management levels

Figure 2. A representation of the Performance by Potential Matrix used to assess AN officers across the 2 dimensions of performance and future potential.

A PxP Matrix is developed using a number of inputs. For example, an officer's performance includes current OERs, current and previous assignments, education and training, and inputs from the LCM. Similarly, the officer's potential for future roles includes such inputs as the OERs, interviews, supervisory and senior leader (ie, DCN, RNE) input on an officer's behaviors, LCM, and HRC profile.

Strategic Leader Assessment

One of the most important roles every Nurse Corps leader plays is to generate realistic, reliable, and effective OERs. The rater has a clearly defined role and must define performance expectations and hold open one-on-one staff engagements to identify developmental needs and gaps. The efforts to generate

*See article "Designing and Implementing the Army Nursing Leader Academy" on page 18.

impactful OERs require careful planning, a high level of commitment, and establishment of appropriate expectations. One of the tools that will enhance this goal is the Strategic Leadership Assessment (SLA).[3] The SLA is a way to quantify the SKBs to generate an objective profile of one or a group of officers. The SLA includes other value-generating variables, such as below the zone promotions and competitive awards from nonmilitary organizations, for example, Advance Military Practice awards for field-grade officers presented by the Army Nurse Corps Association (an organization of retired Nurse Corps officers). An SLA is generated for officers of the same rank within a medical treatment facility and remains a live document that is regularly updated. The SLA is used to generate the PxP Matrix, and also during staff engagements.

Officer Evaluation Report

Perhaps one of the most significant changes proposed under the talent management program is the enhanced use of the current OER system to capture and identify data on leader behaviors. The OERs provide information on an officer's job performance in a rating period with relevant rater and senior rater comments. However, the OER provides little relevant or reliable information to allow a senior leader or the HRC to confidently identify a future role for an officer.[4] As a single tool to identify future potential, the current OER system is a failure. One of the drawbacks of the current OER is the lack of documentation regarding the rated officer's behaviors which are integral to developing a talent profile. Although Army Values are listed on the OERs, except for a cursory check-off of these behaviors, there are rarely any comments on an officer's behaviors relative to current and future roles. Behaviors are mostly identified if there were documented negative incidents that impacted performance in a rating period.

The goal of talent management practices, such as selecting the right person to do the right job and succession planning, is to predict what leaders will do if placed in certain positions in the future. There are 2 basic ways to do this. One is to measure a person's past accomplishments and performance and use this to predict future performance. This approach is based on the fact that one of the best predictors of future behavior is past behavior in similar situations.[5] The problem with this approach is that many talent management decisions require a determination whether someone is likely to succeed performing tasks that he or she may never before have had an opportunity to perform. For example; the challenge of evaluating whether an officer will be a successful brigade commander while deployed in a combat zone, when that officer may have never held a command role before. Another way to predict future performance is to use psychometrically designed assessments that measure underlying behaviors related to various personality and ability traits.[6] When appropriately designed and applied, these behavior assessments are often the single most accurate predictors of future performance.

Under the talent management program, behaviors will be captured on the OER. The Nurse Corps has identified core and unique behaviors that will become part of the comment section for raters and senior raters. Core behaviors are applicable to all officers and comments on unique behaviors will be needed for mission critical roles such as Chief of the HRC, DCN, senior executive nurse at a medical command, or a regional nurse executive. Core behaviors include adaptable, decision maker, inspires trust, develops others, team player, and builds relationships. The core behaviors are specifically identified on the LCM under various objectives. Unique behaviors include change agent, mentor, strategic, visionary, influences others, and values diversity. A combination of unique and core behaviors will be addressed on the OER so a comprehensive SKB profile may be created for the rated officer. This additional level of information on an officer, in addition to the other tools discussed above, will allow a more objective and practical prediction of an officer's potential.

FEEDBACK TOOL

In addition to the tools discussed above, there are others that remain unusable or unavailable, including a 360° multirater feedback to measure and capture behaviors, and a formalized mentoring and coaching program. For example, the Department of the Army (DA) currently uses a feedback tool at the senior services schools and other academic institutions which has been identified by users as impractical. Therefore, DA is now developing a 360° feedback tool that will be usable at all levels and organizations, regardless of size. Once developed, the Army Nurse Corps will adopt the tool for its talent management strategy. A successful multirater 360° feedback allows senior leaders, peers, team members, and customers (patients)

to provide anonymous feedback to the officer. In the absence of a multirater 360° feedback tool, the rater and senior rater will use the clinical peer feedback, which captures clinical performance. The peer feedback tool, although limited, will provide raters with some objective data on an officer. In addition, although an informal mentoring and coaching program remains available for use to mentor and coach, a formal mentoring policy is currently under development.

Succession Planning

As indicated in the Table, talent management will also facilitate succession planning in the Corps. Succession planning is the process of identifying and monitoring an organization's talent pool in order to address the future needs and goals of the organization. Army nursing employs succession planning strategies to ensure that high-potential successors have been identified for key positions. Succession planning focuses not just on key leadership positions, but on key positions at all levels; tactical, operational, and strategic. Clearly defining the competencies and behaviors leaders need to achieve is critical to ensure high-potential successors are available to fill future leader roles. Succession planning also ensures that leaders with critical skills do not prematurely leave Army Nursing, potentially leaving the organization without the right capabilities. In addition, as stakeholders, the officers and their chain-of-command are equally responsible for ensuring that the right talent is developed to meet the future challenges within the Corps. To that end, regular collaborative communication, or calibration meetings, are a requirement for the successful implementation of talent management.

Calibration meetings bring together an officer's raters and/or senior raters and the assignment officers at the HRC to finalize future potential ratings. The primary tool used during these meetings is the Performance by Potential matrix. During these meetings, officers' individual results are comprehensively calibrated against their peer group, and evaluated against defined criteria that include performance relative to objectives, job-scope delivery, demonstration of leadership competencies, practicing Corps values, and personal development. Talent calibration meetings also enable senior leaders and the HRC to calibrate their ratings to create a consistent set of evaluations, including merit lists. These calibration meetings ensure that an objective profile for all officers is created as they move through their careers. These calibration meetings are held at regular intervals based on the officer's rank and position. For example, a section supervisor at a medical center participates in staff engagements twice a year, and his/her DCN may, in turn, conduct calibration meetings twice a year.

Conclusion

A large amount of research exists highlighting the importance of talent development and the significant number of resources dedicated to recruiting and accessions systems and human resourcing processes that support talent management. However, an astonishing number of organizations, including the Army Medical Department and the Army Nurse Corps, lack adequate talent management programs or tools, and are continually challenged to fill key leadership positions with the right officer who has the right capabilities and skills. These challenges continue to put a considerable constraint on the organizational structure by forcing it to operate at less than full effectiveness in its mission. This gap reduces the ability to build a culture of trust within an organization, and results in less than effective support for combatant commanders in their mission to fight and win wars. It is critical to identify, develop, and retain talent within the Nurse Corps. In addition to identification of the skills, knowledge, and behaviors of both current and new leaders, it is also vital that those leaders with the right capabilities are well-developed to become key leaders within our Corps. This succession planning can be achieved through individual development plans, stretch goals, mentoring, and coaching, as well as using other tools such as effective evaluations. The bottom line—talent management requires organizational and senior leadership commitment. "Who will follow?" is not a question without an answer. The key to ensuring effective leadership in the Army Nurse Corps is talent management.

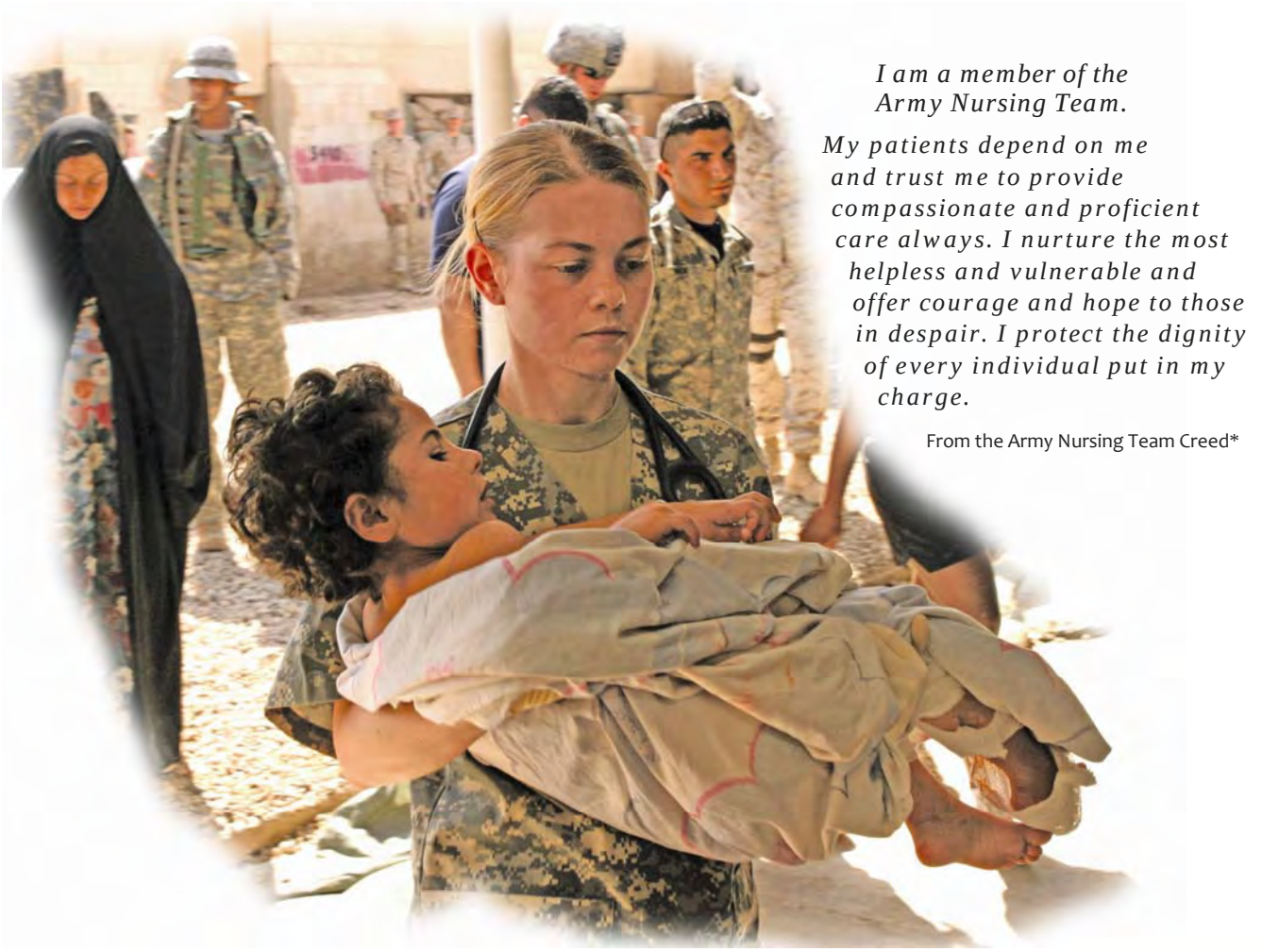
References

1. Hunt SR. Common sense talent management: twelve fundamental principles for increasing workforce productivity [white paper]. San Mateo, CA: SuccessFactors Inc; 2008:3. Available at: http://www.successfactors.com/resources/download/common-sense-talent-management/. Accessed September 6, 2011.

2. Wardynski C, Lyle DS, Colarusso, MJ. Towards a U.S. Army officer corps strategy for success: a proposed human capital model focused upon talent. Carlisle, PA: Strategic Studies Institute, US Army War College; 2009. Available at: http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?PubID=912. Accessed April 2, 2011.
3. Horoho, PD. Building the future ANC talent. Army Nurse Corps Blog. June 24, 2010. Available at: https://blog.amedd.army.mil/nurse/?Page=PostViewMulti&displayMonthlyArchives=June%26nbsp%3B2010&month=6&year=2010. Accessed February 13, 2011.
4. Dempsey, ME. Dempsey, ME. Remarks at: Prepare the Army Forum 04, Army Leader Development Strategy for the 21st Century; August 18, 2010; US Army Training and Doctrine Command, Fort Monroe, VA.
5. Janz T, Hellvervik L, Gilmore DC. *Behavioral Description Interviewing*. Newton, MA: Allyn and Bacon; 1985.
6. Hunt ST. *Hiring Success: The Art and Science of Staffing Assessment and Employee Selection*. San Francisco, CA: Pfeiffer; 2007.

AUTHOR

MAJ Nagra is Chief, Clinical Modeling Branch, Manpower Division, Program Analysis and Evaluation, US Army Medical Command, Fort Sam Houston, Texas.



*Presented on page 9

Transforming Army Nursing Support Services to Centers for Nursing Science and Clinical Inquiry

Lori A. Loan, PhD, RNC

Army Nursing is transforming nursing care delivery from an expert-based practice model to a systems-based care model. Expert-based practice is best illustrated as a mirror—it is like holding up a mirror to assess and evaluate nursing practice. In contrast, a village has been used as a metaphor for system-based care—a nurse must work with a community of health care personnel to deliver the most advantageous patient care.[1] Systems-based nursing care can also be thought of as a way of viewing and understanding the interdependencies of the health care system in order to make change efforts in caregiving and practice more successful. In clinical settings, these models are operationalized by asking 2 different but associated questions[2]:

- The expert-based practice question: How can I improve the care for my patients?
- The system-based care question: How can I improve the system of care?

This new systems view underpins the Patient CaringTouch System, formerly the Army Nursing System of Care, and is critical to understanding how to best obtain optimal patient outcomes and safe healthcare environments, while maximizing the value and quality of the military healthcare benefit.

Research and evidence-based practice are overarching and core constructs in the Army Nursing Strategic Plan, and evidence-based decision making is a supporting leg of the Army Nursing System of Care. It is, therefore, not surprising that the first areas of Army Nursing to undergo transformation are those supporting research, evidence-based practice, and decision support. Tenets of system-based care, translational research, and knowledge integration are being used to guide this transformation.

Consistent with systems-based care principles, outcome goals of the transformation include systems resourcing, health care economics, teamwork, cost-benefit considerations, and practice management. Implementation of the transition incorporates an integrative systems-thinking framework. Steps in this framework include development and application of systems methods and processes, building and maintaining network relationships, building systems and knowledge capacity, and encouraging transformation to a systems culture.[3] Using these steps will help to build a better, standardized nursing support system to tackle critical Army nursing issues.

Translational research and knowledge integration tenets were also incorporated into the nursing support service transformation in order to capitalize on common ground upon which to build a platform for translating what we know about nursing into what we do in practice and policy. Ideas proven to improve evidence-based care and decision-support such as expert panels, literature review and synthesis, and concept mapping were used to develop a framework that would build a team of teams with expertise in research, clinical practice, and business management analysis. This will provide a systems-oriented approach to integrating evidence into action and moving system-based knowledge gaps to the forefront to expedite generation of research studies (Figure 1).

Key to this transformation is the consolidation of various types of nursing experts to better meet the needs of frontline nurses and nursing executives. For the nursing research community, this change involves transitioning the existing 9 Nursing Research Services to 5 Centers for Nursing Science and Clinical Inquiry (CNSCI). As shown in the Table, the mission of these new centers will include nursing research, nursing decision support, and the integration of evidence-based practice at the point of care.

The largest Army MTF in each region will house a CNSCI: Brooke Army Medical Center, Landstuhl

The products provided by the Centers for Nursing Science and Clinical Inquiry and the respective responsible staff members.

Product	Responsible Staff*
Evidence-Based Practice Products	
Development of EB guidelines	CNS, NS
Updates of EB guidelines	CNS (NS)
EB guideline education	CNS
Consultant for EB guideline translation into practice and sustainment	CNS
Consultation, consolidation and reporting of guideline compliance	NMA, CNS
Nursing Practice Products	
Assistance in developing plans of care for complex patients, and facilitation for the execution of those plans	CNS
Review, critique, and dissemination of relevant evidence, research findings, and professional standards for nursing.	CNS (NS)
Collaboration with nursing leaders and multidisciplinary teams to define/develop population-specific patient care initiatives	NS, CNS, NMA
Consultant to the MTF, section and unit Nurse Practice Councils	NS, CNS
Nursing Decision Support Products	
Development, measurement and reporting of nursing sensitive outcome indicator measures to evaluate MTF and unit-level staffing effectiveness, EBP projects, and the Army Nursing System of Care	NMA (NS)
Consultation regarding data interpretation or drill down	NS, NMA
Evidence summaries to assist in policy development or revisions	NS
Collaboration with Informatics Nurses to improved nursing care	CNS, NMA, NS
Cost evaluations	NMA, NS
Micro and macro analysis of data pulled by MTF analysts'	NMA (NS)
Surveys of customers and staff	NMA (NS)
Subject matter experts for nursing related TJC compliance	CNS, NMA (NS)
Advanced statistical analysis to augment nursing decision support	NS
Scholarly Nursing Products	
Externally funded studies relevant to MTF and Army Nursing missions	NS
Publications to showcase the MFT or Army Nursing	NS, CNS
Internal studies to improve nursing care and processes	NS
Internal, regional and national presentations to showcase the MFT, Army Nursing and facilitate Magnet-like traits	NS, CNS, NMA
Individual counseling and mentoring for members of the Army Nursing team planning and pursuing graduate degrees in nursing	NS
LTHET and internal staff master's and doctoral student support for scholarly work relevant to MTF and Army Nursing missions	NS

* Parentheses indicates the responsible staff member is acting in a consultant role.

Glossary

CNS – clinical nurse specialist
MTF – medical treatment facility
NS – nurse scientist
EB – evidence-based
NMA – nurse methods analyst

Regional Medical Center, Madigan Army Medical Center, Tripler Army Medical Center, and Womack Army Medical Center. The centers will be staffed by 3 Army nurse scientists (formerly called nurse researchers); 3 selected clinical nurse specialists (CNSs); and one nurse methods analyst (NMA). This staffing model will result in permanent teams of nurse experts with a shifting emphasis that capitalizes on the 4 Army Nursing imperatives—evidence-based management, warrior care, leader development, and human capital—while addressing diverse priorities as well as local, regional, and Army Nurse Corps needs.

Generating and using research evidence for the improvement of nursing care delivery and patient and system outcomes are core goals for the CNSCIs. The scientific discovery processes commonly associated with nursing research initiatives are the initial phase of the action-research cycle in which CNSCI nurse scientists work closely with nursing personnel, nursing leaders, NMAs, advanced practice nurses, and policymakers to translate their findings into improved therapeutic, preventive, and business practices. Clinical nurse specialists provide the collaborative contexts in which research findings produced by nurse

scientist teams are translated into practical applications. The new model also emphasizes systems thinking and teamwork, so that bedside nurses can consult with CNSs who know the evidence supporting their practices. Nurse methods analysts will turn numbers to knowledge and, when paired with the CNSs who have the bedside knowhow, will help to expedite getting evidence to the point of care. Maintaining mission balance will be a challenge. Research, for example, should not outweigh implementation of evidence or the use of data for decision-making.

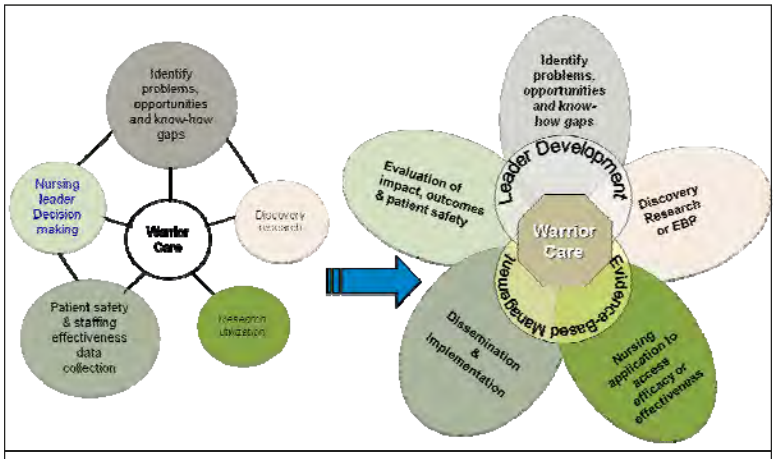


Figure 1. Fundamental shift in nursing support assets from expert-based practice to system-based care.

Working together in CNSCIs will enable CNSs, NMAs, and nurse scientists to more rapidly move evidence from question to answer to translation to evaluation. Consolidating inquiry assets will also increase the capacity and capability for evidence-based management and evidence-based practice. When the transformation is complete, the centers will include all essential elements of a translation-focused, systems-based care network as depicted in Figure 2.

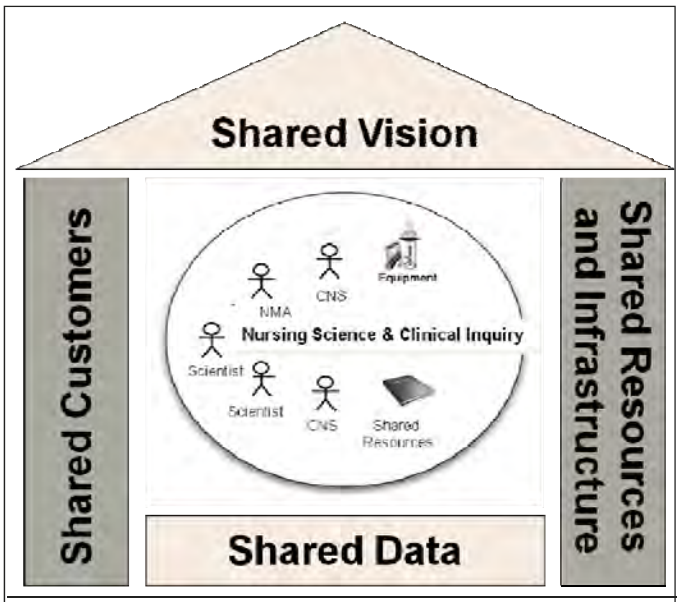


Figure 2. Essential elements for Centers for Nursing Science and Clinical Inquiry.

References

1. Ziegelstein R, Fiebach N. The mirror and the village: a new method for teaching practice-based learning and improvement and systems-based practice. *Acad Med*. 2004;79:83-88.
2. Johnson JK, Miller SH, Horowitz SD. Systems-based practice: improving the safety and quality of patient care by recognizing and improving the systems in which we work. In: *Culture and Redesign*. Rockville, MD: Agency for Healthcare Research and Quality; 2008. Henriksen K, Battles JB, Keyes MA, Grady ML, eds. *Advances in Patient Safety: New Directions and Alternative Approaches*; vol 2. Available at: http://www.ahrq.gov/downloads/pub/advances2/vol2/Advances-Johnson_90.pdf. Accessed January 24, 2011.
3. Stokols D, Hall KL, Taylor BK, Moser RP. The science of team science: overview of the field and introduction to the supplement. *Am J Prev Med*. 2008;35(suppl 2):S77-S89,S96-S115.

Author

Dr Loan is Consultant to The Surgeon General for Nursing Research at the Madigan Healthcare System, Tacoma, Washington.

Establishing A Methodology for Development and Dissemination of Nursing Evidence-Based Practice to Promote Quality Care

COL Carol J. Pierce, AN, USA

ABSTRACT

Reducing nursing practice variance by standardization of practice guidelines based on supportive literature has demonstrated improvements in the quality of patient care and positive patient outcomes. The challenge is to link the bedside nurse providing nursing care to subject matter experts well-versed in the critical analysis of clinical practice recommendations. This article discusses the restructuring of nursing research departments within Army healthcare facilities to facilitate nursing practice based on supportive evidence and the development of a senior nursing leadership practice council to support dissemination of approved nursing practice guidelines across all Army inpatient medical facilities.

A component of the Army Nurse Corps Patient CaringTouch System of Care—the Army Nursing model for standardization of nursing practice—is the establishment of a process for the development, dissemination, implementation, and impact assessment of evidence-based nursing practice across our military medical treatment facilities in our worldwide garrison and deployed settings. This article summarizes the nursing evidence-based practice journey utilizing Army nurse scientists and a council of nursing leaders to develop and implement Army nursing evidence-based clinical practice guidelines (AN CPGs) within our Army medical treatment facilities.

As with other healthcare fields, nursing practice often varies considerably with the development of institutional policies and procedures not consistently based on best-practice evidence, but rather upon personal experiences or non-peer reviewed literature accounts. Titler et al[1] defined evidence-based practice "as the conscientious and judicious use of the best evidence to guide delivery of health care services." Melnyk and Fineout-Overholt[2] identified 5 steps in the evidence-based practice process: asking the clinical questions, collecting the most relevant evidence, subjecting the evidence to critical appraisal, integrating clinical expertise, integrating patient preference and values in making a practice change, and then evaluating the practice change. While few would argue that basing nursing practice on the best evidence available is optimal, there are barriers to the actual implementation of best evidence in nursing practice, with a gap of up to 17 years from sufficient research evidence to actual change in practice.[3] The challenge for organizational nursing leaders is to establish a framework for evidence-based practice development and implementation that includes all levels of nursing, from the nurse at the patient's bedside to the director of nursing, and is embraced by the institution as an essential element in the provision of nursing care. Unfortunately, many nurses lack the background knowledge or the time to critically review literature and determine applicability to practice.[4] A positive trend is the addition of evidence-based practice curriculum to nursing academia which has resulted in a new generation of nurses who enter the healthcare organization with the ability to ask clinical questions and critique available evidence. These new nurses may actually drive the transition of practice from tradition to best practice evidence and become the change agents in healthcare organizations. The challenge for nursing leadership is to ensure that the organization is structured so that leadership establishes a supportive environment that encourages nurses to not only ask the clinical question, but to also seek the best practice answer. This requires nursing leaders to create an organizational framework that has the clinical nurse specialists and nurse scientists readily accessible and responsive to the nurses who are providing direct patient care.

The Army Nurse Corps has a long history supporting nursing research. Annually, Army Nurse Corps officers are selected for long-term doctoral health education and training followed by utilization tours as nurse scientists in the large medical centers. Currently, there are over 40 nurse scientist manpower

authorizations (military and civilian) across the Army Medical Command. In addition, military nursing scientists are deployed in combat theaters of operation to support theater research programs. While nursing scientists are actively engaged in clinical research, there has been considerable variation in the utilization of nurse scientists which has detracted from the ability to integrate nursing research into clinical nursing practice. Often, the nursing research that was conducted appeared to arise from the nursing scientist's personal area of interest, with only limited application to the clinical issues and nursing care practice most impacting their assigned institution or the entire Army Medical Command. Additionally, often the research did not involve replication studies to build a body of knowledge in support of definitive practice changes, or to enhance application of the findings across diverse populations and other facilities.

Recently, through the strong direction of the Nurse Scientist Consultant to The Army Surgeon General, the nurse scientist community has established nursing research priorities aligned with the Corps' vision of implementation of nursing evidence-based practice, and reduced practice variation across our healthcare system. In order to synchronize clinical and nursing research activities, the Nurse Scientist Consultant is in the process of realigning nurse scientists, nurse clinical specialists, nurse method analysts, and nurse informatics officers into regional Centers for Nursing Science and Clinical Inquiry (CNSCI). Bridging the gap from research to bedside practice requires a coherent strategy linking the nursing scientists, advanced practice nursing clinicians, medical informatics technology support, and administrative leadership. The restructuring of the nursing research sections into regional clinical inquiry cells better supports an evidence-based practice model within each medical treatment facility (MTF), and nursing practice across the entire Army Medical Department. Bedside nurses in any MTF may now reach out to these subject matter experts from regional CNSCIs for assistance with patient care practice issues. The nurse clinical specialists working with nursing staff identify clinical issues, while the nurse informatics officers and nurse methods analysts facilitate maximal use of clinical information technology and business analytical tools in support of evidence-based practice initiatives. Additionally, each regional CNSCI has defined nursing research and evidence-based practice priorities, based on identified research focus areas, with the goal to transition from the past model often characterized as individual research interests to an integrated methodology addressing common bedside nursing practice issues. The nurse scientists assist nursing staff in the conduct of comprehensive literature reviews and evaluation of the strength of supportive evidence, and, if indicated, develop research protocols to build a body of knowledge if current evidence is lacking or inconclusive. In other, nonmilitary healthcare organizations, a similar strategy has been linked to quality care processes, as hospital-based nursing research cells provide the infrastructure and the processes to promote and sustain evidence-based practice. Such cells are also integral to the success of hospitals in the achievement of Magnet status, a marker of excellence in hospital care.[5] It is critical to success for nursing executive leadership in the organization to ensure that evidence-based practice language is incorporated in the mission, values, and philosophy of care, and that resources are made available to support the implementation.

Within the CNSCIs, the nursing scientists use the Iowa Model of Evidence-Based Practice framework[1] to assess the strength of the evidence supporting nursing practice changes. Each regional CNSCI conducts a thorough review of literature and grades the strength of the evidence. The Iowa Model of Evidence-Based Practice framework structures a decision making process evaluating available research, case reports, consensus of experts and scientific principles. Based upon the evidence, the nurse scientists may develop a nursing clinical practice guideline in collaboration with clinical nurse specialists and clinical nursing staff. If insufficient evidence exists, the nurse scientists may develop an appropriate research protocol in order to establish a body of knowledge ultimately sufficient to support standardization of clinical practice. If the practice guideline involves other non-nursing healthcare team members, recommendations are forwarded to the Army Medical Command proponent for clinical practice guidelines. The first application of this strategy involved the CNSCI nurse scientists assigned to the Madigan Army Medical Center, Tacoma, Washington.

Patient falls remain a prevalent problem in healthcare institutions, despite a plethora of literature related to the identification of at risk patients and actions to mitigate falls. Within the Army medical treatment facilities, the patient falls prevention strategy frequently differed as to risk assessment tools, documentation, and mitigation strategies. The

challenge was to conduct an exhaustive review of the literature and grade the strength of evidence to determine the best practices that should then be standardized for each facility. The nurse scientists within the CNSCI were responsible for the initial review of the evidence and the development of the Falls Prevention Army Nursing clinical practice guideline (AN CPG) in collaboration with clinical nursing staff, clinical nurse specialists, and nursing leadership. Their findings, recommendations, and the Falls Prevention AN CPG were then forwarded to other regional CNSIs for review and validation. As concurrent with the Patient Falls AN CPG development, the Army Medical Command Patient Safety Section developed a Patient Falls prevention policy. The nursing practice guideline was then matched against the policy to ensure consistency in practice recommendations. The final products were the Falls Prevention AN CPG and the Army Medical Command Patient Safety policy standardizing the patient falls risk assessment tools for adults and children, risk mitigation actions, documentation, and outcome evaluative metrics.

Implementation of an evidence-based practice model in one institution is daunting. Building a framework for the sharing of evidence-based practice guidelines and enforcing their consistent application across several institutions can be overwhelming. Standardization of elements of nursing practice in multiple organizations worldwide requires not only the support of each nursing leader, but the administrative and communication processes necessary to disseminate and enforce implementation and systematic outcomes evaluation. Pearson et al[6] described the challenge of disseminating nursing innovations through large healthcare organizations comprised of multiple institutions. As a part of the Robert Wood Johnson Foundation initiative, Transforming Care at the Bedside (TCAB), 3 large healthcare systems were asked to evaluate how large hospital systems spread changes in nursing care processes across multiple medical surgical units within their institutions. They defined the term "spread" as the active dissemination of new ways to organize or provide care from one healthcare setting to another. The example initiative, evolved from concerns brought by frontline staff, was a change to facilitate smooth, safe, patient-centered nursing shift changes. One of the healthcare organizations involved in the TCAB initiative implemented a centralized or "top-down" approach to dissemination of specific innovations from one institution to another, whereby senior leaders introduced the innovation to a new location and encouraged staff nurses to implement changes. Conversely, the other 2 organizations used a "bottom-up" approach, whereby education on the TCAB improvement processes and team formation were provided to nursing staff, with staff nurses then responsible for implementation of the processes on their units. Both the top-down and bottom-up strategies for dissemination of practice innovations were equally effective. Both strategies required considerable resources and leadership support. The TCAB review team concluded that the top-down approach may be most useful when innovations have been previously implemented and tested, and the desire is to establish uniform, consistent adoption across the entire healthcare system. The advantage of the bottom-up approach is that it allows the nursing staff at unit level to effect the change with potentially more "buy-in" to the innovation.

Early in the development of the CNSCI concept, the Chief, Army Nurse Corps requested information on the strategy for dissemination of AN CPGs across all MTFs. In an impromptu discussion with the Corps Chief, the AN Corps Specific Branch Proponency Officer (AN CSBPO) diagrammed a process for generating nursing evidence-based practice priorities, the development of AN CPGs, and a review process involving senior nursing leaders. From this discussion, the Army Nurse Practice Council (ANPC) concept evolved as a method for senior nursing leaders across the Army Medical Command to prioritize nursing evidence-based practice initiatives and approve AN CPGs for dissemination and application into the nursing practice environment of our garrison MTFs and in our deployed healthcare settings. With multiple, worldwide MTFs, the centralized top-down strategy for dissemination of nursing practice innovations seemed the most feasible vehicle for AN CPG standardized application to each inpatient nursing unit. A charter for the ANPC defined its purpose: provide oversight and direction for nursing practice and nursing care delivery through standardization of evidence-based clinical practice guidelines within the domain of nursing. The ANPC is a deliberative body charged with providing recommendations to the Chief, Army Nurse Corps. The charter designated the AN CSBPO and the Army Medical Command Patient Safety Officer as ANPC cochairs with additional voting members, including the regional nurse executives, a medical brigade chief

nurse, a nurse scientist from each region, and a senior enlisted advisor. As needed, the chairperson may invite subject matter experts to discuss specific topics within their area of expertise.

When the clinical inquiry cell has completed the review of the AN CPG, it is submitted to the ANPC chairperson who then distributes it to the ANPC membership for review and feedback. Based upon final recommendations, the AN CPG is subjected to ANPC vote. If approved by the majority of ANPC membership, the AN CPG is disseminated to each regional nurse executive for implementation across their region. An element of each ANPC review will be determination of performance and outcome metrics. The nurse method analysts and nurse informatics officers in the regional CNSCIs will assist in development of measurement tools, training aids, and improvements in the electronic medical record system to support the practice change. Multiple strategies have been implemented to ensure optimal dissemination of AN CPGs. The AN CPG is made accessible on the Army Medical Command Clinical Practice Guideline website (https://www.qmo.amedd.army.mil/pguide.htm). Additionally, each AN CPG will be incorporated into the web-based clinical training and competency assessment program available at each facility.

The establishment of the ANPC and the implementation of AN CPGs based on best evidence is a component of the Patient CaringTouch system of nursing care. Through standardization of many of our direct nursing care processes, the end state is the provision of consistent, evidence-based nursing care across all of our medical treatment facilities and reduce practice variance. The Falls Prevention AN CPG was the first nursing evidence-based practice guideline approved by the ANPC. An Army Medical Command operational order for the ANPC and AN CPG dissemination is currently in staffing. When approved, each additional AN CPG will be disseminated through operational order updates to the original operational order. Currently in development is a second practice guideline to standardize nursing processes and procedures as they relate to nursing hourly patient rounds, including standardized assessment of patients, interventions, documentation, and outcome metrics. To ensure that AN CPGs remain current and relevant, the CNSCIs and the ANPC will establish review dates for nurse scientists' proponents responsible for the review of literature and updates to previously approved AN CPGs. Recommendations will be reviewed by the ANPC membership for approval prior to the incorporation of changes.

Transitioning nursing practice from tradition-based to practice driven by evidence often requires a realignment of organizational structures. Nursing research cells were reorganized into regional CNSCIs and an ANPC was established to create an enduring infrastructure for the standardization of nursing practice based on best evidence across all of our healthcare institutions. While only in the beginning phase, the long-term goal is to ensure that patients in every Army healthcare facility receive nursing care within a standardized framework of evidence-supported clinical practice. That framework formalizes the linking of practice questions from nurses in direct patient care with a responsive infrastructure of clinical nurse specialists and nurse scientists to ensure facilitation of best-evidence answers.

References

1. Titler M, Kleiber C, Steelman V, et al. The Iowa model of evidence-based practice to promote quality care. *Crit Care Nurs Clin North Am.* 2001;13(4):497-509.
2. Melynk B, Fineout-Overholt E. *Evidence-Based Practice in Nursing And Healthcare: A Guide to Best Practice*. Philadelphia, PA: Lippincott, Williams, and Wilkins; 2005.
3. Bondmass M. Implementation strategies for evidence-based practice. *Nevada RNformation*. 2011;20(1):14.
4. Staffileno B, Carlson E. Providing direct care nurses research and evidence-based practice information: an essential component of nursing leadership. *J Nurs Manag.* 2010;18:84-89.
5. Ingersol G, Witzel P, Qualls B. Meeting magnet and evidence-based practice expectations through hospital-based research centers. *Nurs Econ.* 2010;28(4):226-236.
6. Pearson L, Upenieks V. Spreading nursing unit innovation in large hospital systems. *J Nurs Admin.* 2008;38(3):146-152.

Author

When this article was written, COL Pierce was the Army Nurse Corps Specific Branch Proponency Officer, AMEDD Center and School, Fort Sam Houston, Texas.

Nursing and En Route Care: History in Time of War

MAJ R. Scott Davis, AN, USA
COL Linda K. Connelly, AN, USAR

Abstract

The mission of the en route caregiver is to provide critical care in military helicopters for wounded Warriors. This care minimizes the effects of the wounds and injuries, and improves morbidity and mortality. This article will focus on the history of Army Nursing en route care.

From World War II through Vietnam, and continuing through the War on Terrorism in Iraq and Afghanistan, Army nurses served in providing en route care in military airplanes and helicopters for patients being transported to higher echelons of care. From aid stations on the battlefield to forward surgical teams which provide life, limb, and eyesight saving care, to the next higher level of care in combat support hospitals, these missions require specialized nursing skills to safely care for the high acuity patients. Before the en route care concept existed, there was not a program to train nurses in these critical skills. There was also a void of information about patient outcomes associated with the nursing assessment and care provided during helicopter medical evacuation (MEDEVAC) of such unstable patients, and the consequent impact on the patient's condition after transport.

The role of critical care nurses has proven to be essential and irreplaceable in providing full-spectrum care to casualties of war, in particular, the postsurgical patients transferred from one surgical facility to another in theatre. However, we have only recently developed the concepts over the required skill set, training, equipment, functionality, evidenced-based care, and sustainability of nursing in the en route care role. Much of the work to quantify and qualify nursing care has been done by individuals and individual units whose lessons learned have only recently been captured.

The Early Years

In 1910, CPT George Gosman, US Army Medical Corps, modified an aircraft to show that casualties could be successfully transported in aircraft. However, there was no mention of an attendant. He then submitted a report to the Secretary of War describing this process. The report was not acted upon because it was felt that, although the need was compelling, the airplane was not sufficiently developed for such transport.[1] Between World Wars I and II, in 1920, 4 airplanes were modified to carry 2 litter patients and an attendant, and were used along the Mexican border. After using this transportation for several Soldiers, an after action report stated "…no longer will the luckless injured recruit…be jolted for hours in a rough ride automobile over cactus and mesquite, but borne on silvery wings, cushioned by a mile of air…to the rest and comfort of a modern hospital."[1(p5)]

In 1921, the Army took delivery of a Curtis Eagle airplane that carried 4 litter and 6 sitting patients. Unfortunately, this airplane crashed, killing all seven on board, which halted any further development of aircraft for evacuation before World War II.[1] In 1930, a civilian pilot named Lauretta Schimmoler envisioned the idea of flight nursing. Out of this vision came an organization known as the Aerial Nurse Corps of America. This organization was founded independent of the military services, however, Schimmoler's intention was that her organization would provide flight nurses to the American Red Cross and the US Army.[2] Her ideas were not as acceptable to the American Red Cross and the Army as she had hoped, as shown in a response from MAJ Julia O. Flikke, Superintendant of the Army Nurse Corps from 1937-1943:

> …any well-trained nurse to whom air travel is not distasteful, could be assigned, so that at present time at least there seems to be no factual justification for a group of nurses being segregated and called aerial nurses.[2(p1177)]

Later Schimmoler was informed that nurses would be assigned from the Army Nurse Corps for air evacuation, and further, members of her association could join the Army Nurse Corps which had many

vacancies. In October of 1937, MG C. R. Reynolds, Surgeon General of the Army, discouraged the American Red Cross from organizing a corps of "flight nurses," since the Army did not see a need for specially trained nurses for air evacuation.

World War II

The Second World War brought about a significant change in the US Army's attitude toward the concept of "flight nursing" to accompany wounded Soldiers during air evacuation transport from forward surgical hospitals to tertiary facilities. Medical evacuation from the battlefield by air was brand new to the Army. Prior to the war, wounded were taken from the fight in trucks, field ambulances, and even the venerable old 2-wheeled handcart. The primary problem with these older forms of transport was the lack of speed in moving the injured to rear areas. Moving the wounded quickly to clean hospitals that had surgeons and life saving drugs—things that could not be found in an active combat zone—did lower the morbidity and mortality among battlefield casualities.

Increased use of airplanes in World War II made it necessary to train special nurses to accompany wounded men on evacuation flights to the rear. Standards and training were developed for flight nursing in response to the need. The first flight nurse training program was created at the Army Air Force School of Air Evacuation in Bowling Green Kentucky.[3] They learned crash procedures, received survival training, and learned the effects on patients of different altitudes. The first class of Army Flight Nurses, who were exceptional nurses that could pass a flight physical, completed training in February 1943.[3]

Following this class, air evacuation of patients began in North Africa and eventually became a standard. Medical evacuations with attending flight nurses flew in all theaters of operations during World War II.[4] The wounded troops were picked up from rear area hospitals, out of harm's way. Following the landings in Normandy (June 1944), medical transport C-47 airplanes, each with one flight nurse and one medical technician, were first flown into a hot combat zone in the European theater. These specially crewed airplanes eventually were deployed to every theater of the war. Over one million patients were evacuated by air during World War II. On one particular day, airplanes transported 4,707 wounded. All the wounded of World War I were returned to the United States on hospital ships or troop transport ships. During World War II, one-fifth of all patients returned to the United States by air evacuation. By the end of the war, the Army Air Corps had established 31 Medical Air Evacuation Transport Squadrons staffed by 500 flight nurses.[4]

Within the "chain of evacuation" established by the Army Medical Department during World War II, nurses served under fire in field hospitals and evacuation hospitals, on hospital trains and hospital ships, and on medical transport planes as flight nurses. The skill and dedication of these nurses contributed to the extremely low postinjury mortality rate among American military forces. Overall, fewer than 4% of American Soldiers who received medical care in the field and underwent evacuation died from wounds or disease. Rapid evacuation by airplane did lower the battle casualty fatality rate, but it cost the lives of 17 flight nurses.

Airplanes were scarce and valuable, so none were devoted entirely to medical evacuation. Airplanes for air evacuation also transported military supplies, and could not, under the Treaty of Geneva (also known as the Red Cross Treaty), display a red cross to indicate noncombat status. Without the red cross symbol, the evacuation flights were open to enemy attack. Due to the dual mission of the aircraft, there were frequent snarls in communication, sometimes causing nurses to fly into an area aboard a plane loaded with ammu-

Student flight nurses at the US Army Air Force School of Evacuation, Bowman Field, KY, learned how to prepare and handle patients using a mock-up fuselage of a C-47 transport. Photo courtesy of the National Museum of the US Air Force.

nition only to discover that there were no patients waiting to be evacuated. On the return trip, the empty plane and its crew remained vulnerable to an enemy attack. Equally frustrating to the nurses was the lack of emergency equipment on many evacuation aircraft. Further, many of the wounded patients had never been away from home before joining the Army, never been injured in combat, and never been on an airplane. Those factors combined with the 13-hour flight from Europe to New York to create a stressful environment for both patients and flight nurses.

These pioneering nurses assigned to field and evacuation hospitals as flight nurses became accustomed to taking the initiative, making quick decisions, and adopting innovative solutions to a broad range of medical-related problems. They learned organizational skills by setting up and moving field and evacuation hospitals while following the troops. They developed teaching and supervisory skills while training the medics under their command. Paperwork no longer intimidated them, as circumstances forced them to deal with increasingly complex administrative chores. This legacy of flexibility, dedication, and professionalism set the standard for all who have followed.

THE KOREAN WAR

During the Korean War which began in 1950, nurses were the only female military personnel allowed to serve in the combat zone. From 1950 to 1953, nurses served aboard ships, in mobile surgical hospitals and even on hospital trains and MEDEVAC flights. Due to terrain that was rugged, primitive, and forbidding, evacuation of the wounded by ground transportation during the Korean War was very difficult. The "chain of evacuation" medical doctrine was a holdover from World War II, and only included fixed-wing aircraft. However, since practical, reliable rotary-wing technology had been developed prior to the Korean War, it was the first military conflict in which helicopters were available in significant numbers. Early in combat operations, it was demonstrated that the helicopter could evacuate wounded Soldiers by air directly from the battlefield environment for the first time. On August 5, 1950, a US military helicopter supporting combat operations in Korea responded to an emergency call and transported a wounded Soldier to a mobile army surgical hospital. In an after-action report, the hospital commander stated:

> ...the helicopters proved to be well worth their cost for use in removing patients from the front…making a fifteen minute air trip which would have been several hours by ground ambulances from the front to this hospital.[5]

Their value in rapid evacuation from the point of injury to advanced medical care was quickly recognized, and helicopters were dedicated as medical assets, ultimately transporting approximately 20,000 patients.[5] In November 1952, The Surgeon General of the Army activated an aviation section to strengthen medical control over MEDEVAC.[5]

VIETNAM

During the Vietnam conflict, approximately one million patients were transported by helicopter.[6] When placed in MEDEVAC operations, the Bell UH-1 helicopter was large enough to hold patients and have medical personnel provide care during the flight to the field hospital. In limited cases, nurses traveled with MEDEVAC patients but no records exist to describe to what extent this occurred, and no nurse training program was created to address helicopter transport. However, the value of helicopter transport of patients was firmly established and shown to positively impact the survival rates of wounded Soldiers.[7]

THE MODERN COMBAT ENVIRONMENT

Medical evacuation of casualties has come a long way since World Wars I and II, Korea, and Vietnam. Technology advances and systems have responded to the ever-increasing complexity of modern warfare. The battlefield of the past with clear lines of demarcation has been replaced with a combat zone that spans wide areas, including towns, cities, and the home base of operations.

In today's combat theater, level I care is typically provided by the first responder at the point of injury, the medic that is assigned to a unit and its organic battalion aid stations. Level II care includes initial emergency resuscitative and stabilization surgery, coupled with life and limb saving actions. The level II facility, the forward surgical team (FST), provides a mobile surgical capability as close to combat operations as possible. Level III provides essential care within theater, characterized by the combat support hospital (CSH). The core of ensuring quality health care to our forces and the key to success is the ability

to continue treatment started at levels I and II, and evacuate the wounded to definitive health care while maintaining stabilization and providing emergency intervention during the medical evacuation. Transporting wounded Warriors quickly through the echelons of care is vital, delays in their receipt of more definitive life-saving care can lead to loss of life or limb. En route care occurs between levels II and III, and beyond—level III to level III, and out of theater, involving Air Force evacuation airplanes.

The need to transport postsurgical critical patients by helicopter first arose with the development of the FST. Patients treated at these facilities often must be transported while recovering from surgical intervention and are in critical condition. These patients are often intubated and on vasoactive intravenous medications that require monitoring by medical personnel trained in critical care. The condition of this type of patient is beyond the original mission concept of MEDEVAC, which emphasizes quick movement of multiple, newly injured patients rather than the transport of one or 2 patients requiring advanced monitoring and significant medical equipment. Such care for critical, postsurgical patients requires skills not normally found in EMT-level personnel. The transfer of patients from an FST or CSH with only the attendance of an EMT-trained medic could seriously decrement the level of care. Specialized nursing skills are required to support these missions due to the high acuities of the transported patients.

The requirement for critical care personnel in the MEDEVAC mission became obvious during the conflicts in Bosnia-Herzekovina and Kosovo, beginning in 1997. In operations supported by the 67th FST, the critical patients were moved from the FST to the Mobile Aeromedical Staging Facility accompanied by advanced cardiac life support trained personnel. These operations were continued with the arrival of the 67th CSH. The problems with the need for non-standard medical equipment on helicopters and the limited availability of critical care personnel continued throughout operations in those conflicts.

Since early 2003, Army nurses have functioned as en route care providers in numbers not seen before due to the high number of critical patients being transported within the theaters of Iraq and Afghanistan. Approximately 20,000 aeromedical missions were conducted from 2003 to 2010, with two thirds requiring provision of critical care.[8] Approximately 20% of those missions moving patients between level II and level III facilities, or level III and level III were supported by nurses. The Army nursing en route care program evolved in Operation Iraqi Freedom from 2006 to 2009, and the challenges of these missions remain the same in Iraq, Afghanistan, and other overseas contingency operations.

Flight Nurse Training

In 2002, senior Army nursing leadership advised the Chief of the Army Nurse Corps, BG William Bester, of the gap in critical care management during aeromedical transfers in helicopters in the new combat environment of Afghanistan. As the battlefield stretched with expanded rapid access to FSTs and split-based combat support hospitals for damage control resuscitation and surgery, the need for critical care postoperative and advanced clinical management during patient transport became increasingly obvious, especially with the initiation of combat operations in Iraq. This gap was directly attributed to a skill-to-requirement mismatch in the clinical training of Army flight medics. While the flight medics were given a significant foundation in point of injury, trauma, and acute medical evacuation management, they did not have sufficient capability to provide the advanced critical care management required during interfacility transfers.

Under BG Bester's guidance to address this issue, one Critical Care Nurse was assigned to the Army School of Aviation Medicine at Fort Rucker, Alabama. Over the next 3 years, the Joint En Route Care Course (JECC) was developed and implemented. The JECC provides concise, realistic, relevant, and current training on en route trauma transport to care providers involved in aeromedical helicopter operations. A 14-member board of subject matter experts consisting of flight medics, helicopter pilots, nurses, and physicians from the Army, Navy, and Air Force convened to review and validate the course in 2006.

The course consists of 10 days of mentally and physically challenging training, with a focus on providing didactic and practical applications of advanced aeromedical and trauma management concepts, effective communications, and roles. These duties are integrated into safe operational performance in a combat environment in a tactical helicopter. The course includes trauma team concepts taught at the Army Trauma Training

Center in Miami, Florida, and accepted as best practices in trauma centers throughout the United States.

CURRENT COMBAT OPERATIONS

As Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF) evolved, intheater units addressed problems with en route care as they arose. From October 2005 to October 2007 in OIF, the 30th Medical Brigade addressed concerns with the medical regulation of MEDEVAC patients, equipment issues, standardization of care for neurological patients, and packaging patients for flight. They reported that 10% to 20% of patients required inflight emergency intervention by the nursing personnel. The efforts of the 30th Medical Brigade were continued and expanded by succeeding units. Those local efforts began to be integrated into existing programs and concepts for the Army Nurse Corps.

In 2007, as part of their efforts to standardize and improve trauma care in theatre, the Joint Theatre Trauma System (JTTS) developed an Intratheater Transport Clinical Practice Guideline (CPG) in collaboration with subject matter experts in Army medicine. This document established guidelines for transporting critical patients and serves as a guide for nurses providing en route care. The CPG states that polytrauma patients require medical management beyond flight medic capability, and recommends that a physician or nurse with critical care experience manage these patients.[9]

During the years of the surge in Iraq (2007-2009), there was an increase of critical injured patients. In response, the 62nd Medical Brigade tasked the 86th CSH to standardize and measure the effectiveness of en route care. Nursing-related patient outcomes were measured and tools were developed to capture nursing workload. The metrics included interventions during transport, equipment issues, and clinical performance improvement initiatives which were used to determine priorities and improve care. These initiatives attempted to create a system of evidence-based care and workload-driven staffing that is normally conducted in medical treatment facilities. The selections of these metrics were based on the clinical recommendations of the JTTS.

Data collected and analyzed during the period 2007-2009 clearly showed that nursing was making a difference in patient outcomes as measured by reductions in hypothermia, acidosis, and mortality. Nurses were performing critical interventions, such as managing hemodynamic changes, making adjustments in ventilator settings, or troubleshooting critical medical equipment approximately 70% of the time. This data validated the need for critical care nurses in the provision of en route care for postsurgical and other critical patients transported between level II and higher capability medical units.

LOOKING AHEAD

The surge of casualties resulting from recent events in Afghanistan have stimulated significant improvements in the process of en route care. Task Force 62 Med (OEF 2010) created several initiatives that drew upon past efforts to standardize en route patient care. Among those improvements are further definition of the qualifications of en route care nurses, dedication of nursing personnel to this specific mission, and integration of the medical brigade, JTTS, and the Joint Combat Casualty Research Team (JC2RT) efforts in tracking data for the purpose of performance improvement. The initial finding of JC2RT indicate that the en route critical care nurses are instrumental in maintaining homeostasis in the acute post-damage-control resuscitation/surgical transfer patients, as measured by oxygenation, through advanced airway management and advanced intravenous pharmacological support, such as vasoactive, analgesic, sedative, and paralytic medication management. Further, the assignment by Task Force 62 MED of nursing personnel to the aviation brigade and MEDEVAC units improved casualty care through ongoing training of flight medics by critical care nurses, and resulted in a team-based care environment.

Currently, the Army has significantly revised and improved training nurses in trauma care. A new trauma nursing training program, the 66T Area of Concentration course, has been implemented to train nurses in critical and emergency care of trauma patients. This program has included en route care in its curriculum, and its graduates will be able to apply the lessons learned to future en route care missions.

The future of en route care requires a flexible response to changes in both combat conditions and patient needs. This will require collaboration among medical personnel and their skills sets; development on new capability through training, data collection and

analysis to develop evidenced-based care; and the allocation of appropriate equipment and resources. The collaboration of skill sets and the improvement of patient outcomes has been a successes of the en route care program.[8]

Army nursing has been integral in the improvement of patient outcomes through the provision of essential skills in critical care, and through data collection and analysis. The analysis of the data collected will foster a learning environment in which best practices will emerge as supported by evidence. These practices will continue to promote standardized training and preparation for en route care nurses, allowing such trained critical care nurses to deploy to use their skills, knowledge, and abilities in caring for those critically injured as they are transported to higher echelons of care. Army nursing will continue to be in the forefront of "aerial nursing" as it has been since World War II when Army Nurses stepped forward to fill a capability gap. In so doing, they established and developed an entirely new discipline, dedicated to the survival and care of our wounded Warriors as they are rushed from the battlefield to the highest echelons of medical care.

References

1. Whitcomb D. *Call Sign–Dustoff: A History of U.S. Army Aeromedical Evacuation from Conception to Hurricane Katrina*. Fort Detrick, MD: Borden Institute, Office of The Surgeon General, US Dept of the Army; 2011.
2. Barger J. Origin of flight nursing in the U.S. Army Air Forces. *Aviat Space Environ Med*. 1979;50 (11):1176-1178.
3. Stroup LB. Aero-medical nursing and therapeutics. *Am J Nurs*. 1944;44(6):575-577.
4. Harl V. WW II Flight Nurse. Available at: http://www.chuckhawks.com/flight_nurse.htm. Accessed September 15, 2011.
5. Driscoll R. US Army helicopters in the Korean War. *Mil Med*. 2001;166(4):290-296.
6. Howard WG. *History of Aeromedical Evacuation in the Korean War and Vietnam War* [master's thesis]. Fort Leavenworth, KS: US Army Command and General Staff College; 2003. Available at: http://handle.dtic.mil/100.2/ADA416927. Accessed August 25, 2011.
7. Mabry RL, De Lorenzo RA. Sharpening the edge: paramedic training for flight medics. *US Army Med Dep J*. April-June 2011:92-100.
8. Hudson TL, Morton R. Critical care transport in a combat environment: building tactical trauma transport teams before and during deployment. *Crit Care Nurse*. 2010;30(6):57-66.
9. US Army Institute of Surgical Research. Intratheater Transfer and Transport of Level II and III Critical Care Trauma Patients. November 2008. Available at: http://www.usaisr.amedd.army.mil/cpgs.html. Accessed August 25, 2011.

Authors

MAJ Davis was a Trauma Nurse Coordinator for the Joint Theatre Trauma System, Operation Enduring Freedom, from April 2007 to October 2007, and Operation Iraqi Freedom from April 2009 to October 2009. He is currently assigned to the Office of the Chief, Army Nurse Corps.

COL Connelly was the Deputy Commander of the 345th Combat Support Hospital from April 2008 to May 2009. Currently she is the Deputy Chief, Army Nurse Corps, Drilling Individual Mobilized Augmentee.

Corrections

The Acknowledgements section of the article, "Effectiveness of Pedometer Use in Motivating Active Duty and Other Military Healthcare Beneficiaries to Walk More" on page 117 of the July-September 2011 issue contained an incorrect statement regarding funding of the research project. The correct statement is as follows:

> The BAMC Department of Clinical Investigation provided funding for this research in support of Graduate Medical Education.

Also in the July-September 2011 issue, coauthor LtCol John D. Childs of the article "Reliability of Lower Quarter Physical Performance Measures in Health Service Members" was incorrectly identified as LtCol John C. Childs.

Optimizing Wartime En Route Nursing Care In Operation Iraqi Freedom

MAJ Michael Nagra, AN, USA

Abstract

Throughout combat operations in Iraq and Afghanistan, Army nurses have served in a new role—providing en route care in military helicopters for patients being transported to a higher level of care. From aid stations on the battlefield where forward surgical teams save lives, limbs, and eyesight, to the next higher level of care at combat support hospitals, these missions require specialized nursing skills to safely care for the high acuity patients. Little information exists about patient outcomes associated with the nursing assessment and care provided during helicopter medical evacuation (MEDEVAC) of such unstable patients and the consequent impact on the patient's condition after transport. In addition, there are no valid and reliable tools to capture care delivery, patient outcomes, and associated nursing workload and staffing requirements.

During Operation Iraqi Freedom, a new process was implemented over a 2-year period to measure nursing related patient outcomes during MEDEVAC, and to capture the nursing workload. The use of standard metrics to establish patient priorities and improve nursing care during MEDEVAC allowed the level II forward surgical teams or their equivalents and level III combat support hospitals to make structural, process, and outcome improvements in the en route care programs throughout the Iraq theater of operations. Implications of this program were broad, including establishment of a process to support decision making based on data driven metrics, improvement of quality of nursing care, and defining nurse staffing requirements.

Introduction

The Combat Healthcare System is a complex mix of interrelated and interdependent systems which provides a continuum of medical treatment from the point of injury (POI) or wounding, through the chain of healthcare delivery to definitive, rehabilitative, and convalescent care in the United States, if needed. Medical evacuation (MEDEVAC) is the system that provides the vital en route patient care during transport between echelons of care, and includes emergency medical interventions to improve patient outcomes, for example, improved prognosis for recovery and/or minimization of potential disabilities.

The intratheater patient movement and en route care during medical evacuation occurs at the battlefront (tactical), between echelons of care (level II and level III) within the theater (operational), and during intertheater transfers (strategic). It requires the synchronization and integration of the Army, Navy, and Air Force medical evacuation resources. The intratheater patient movement system is unlike the intertheater worldwide patient movement and evacuation system, operated by the US Transportation Command, which moves patients to the United States from all combat theaters. Army medical evacuation is a multifaceted program accomplished by a combination of dedicated ground (ambulances/other vehicles) and air (helicopters) evacuation platforms synchronized to provide direct MEDEVAC within the joint operations area. At the tactical level or at the POI, first responders from the organic unit provide the medical evacuation resources to locate, acquire, treat, and evacuate wounded Warriors to an appropriate level II/level III facility. Damage control surgery is often performed by forward surgical teams (FST) in relatively austere environments (level II). The stabilized patients require rapid evacuation by helicopter to a level III combat support hospital (CSH) or theater hospital, since there is no intensive care unit in which to continue the resuscitation. Patients often undergo 2 to 3 damage control surgeries along the way. At the CSH, the goal is to stabilize, prioritize, and, if required, prepare for further evacuation to a higher-level capability, either within the joint operations area, at an overseas facility, or in the United States. The transport of critically ill patients from a CSH to level IV (Landstuhl, Germany) and or level V (medical treatment facility in the United States) is the responsibility of the Air Force Critical Care Aeromedical Transport Team.

The Army's medical evacuation system uses the following principles to guide patient transport[1]:

- Conformity. Medical evacuation support is arrayed on the battlefield in the right place at the right time, and synchronized across operational commands to maximize responsiveness and effectiveness.
- Continuity. Medical care provided during medical evacuation is effective and continuous to prevent interruptions in the continuum of care.
- Control. Control is exercised over the execution of medical evacuation operations. The medical evacuation system is responsive to changing requirements and tailored to effectively support the forces within an area of operations. The system also complies with the combatant command guidance and intent, and maximizes the use of scarce medical evacuation resources.
- Proximity. The speed with which medical evacuation is initiated is extremely important in reducing morbidity, mortality, and disability.
- Flexibility. The medical evacuation plan must be designed to ensure flexibility and agility as well as enhance the ability to rapidly task-organize and relocate medical evacuation assets to meet changing battlefield requirements.
- Mobility. Mobility and survivability ensures that medical evacuation resources can rapidly respond and that evacuation routes do not become too lengthy.

The en route care program developed for the Iraq theater of operations (ITO) ensured compliance with these principles, with special attention to continuity.

BACKGROUND

In mid 2007, MG Patricia Horoho, the new Chief of the Army Nurse Corps, presented her vision for fundamentally transforming the Army Nurse Corps into a force multiplier for both Army Medicine and the Army. That vision eventually evolved into the need to establish an Army Nursing System of Care, now called the Patient CaringTouch System, to transition nursing delivery from an expert-based to a systems-based nursing care model. The 5 major elements that make up the Patient CaringTouch System include:

- Enhanced communication
- Capability building
- Evidence-based
- Healthy work environment
- Patient-family centered care

Patient-family centered care addressed the need to deliver the highest quality care to those wounded in battle, and to support their families and loved ones back home. MG Horoho and senior leaders of the Army Nurse Corps highlighted en route care in a combat environment as an area that not only needed major improvements, but would have a substantial impact on healthcare delivery to wounded Warriors. In addition to improving the quality of care provided to our Warriors in combat, the Patient CaringTouch System would also promote standards, allow measurement of nurse-sensitive outcomes, and monitor the impact of practice innovations.

In late 2007, the 86th CSH (Task Force 86 (TF86)), located in Baghdad, Iraq, was selected to establish a theater-wide en route care program that would address and meet the combatant commanders' responsibilities of intratheater patient movement in their areas of operations. TF86 was selected not only because of the large number of en route care missions that were originating from that facility, but also because of the high acuity of patients admitted to and transported from it. The surge of combat operations in 2007 vastly increased the number of deployed military members to the ITO. This surge resulted in increased combat operations and resulting casualties and injuries throughout the theater. Being one of the premiere level III trauma facilities in Iraq, with specialized trauma teams, TF86 was heavily involved in supporting the intense combat operations in and around Baghdad. TF86 had inherited a substantial en route care program from the previous deployed task force which had been in theater for 15 months. TF86 was therefore able to influence the much needed changes in the en route care processes and procedures. The need to improve Warrior care delivery in theater also coincided with the theater medical commander's insistence to refocus the task force's mission of providing top notch care for all wounded and ill brought to medical treatment facilities. The en route care program directly supported the commander's major strategic goal of "providing world-class Warrior healthcare to US and Coalition

forces," with the end point of optimizing the return of Soldiers to duty and conserving combat power. Initial assessment of the en route care program in Operation Iraqi Freedom (OIF) showed fragmented care delivery and the lack of standards and standardization of the nursing role during en route care missions. However, the assessment also showed that there were examples of excellence at many medical facilities, as was expected in an expert-based care delivery model. The previous task force had left a legacy of a working en route care model, and MG Horoho challenged TF86 to enhance the model to allow both development and dissemination of en route care best practices throughout the ITO. The need to make a deliberate and effective shift towards systems-based care delivery was quickly established. The systems-based delivery model was supported by the development and implementation of clinical practice guidelines, and effective, efficient, outcome-based metrics.

Since the beginning of the ongoing combat operations in early 2003, Army nurses have functioned in their role as en route care providers, transporting patients from level II and level III facilities on MEDEVAC helicopters throughout Iraq and Afghanistan. Although the en route care program discussed in this article was developed in OIF, the challenges of undertaking this mission under rugged and dangerous combat conditions remains the same in OIF, Operation Enduring Freedom (OEF), the current Operation New Dawn in Iraq, and other overseas contingency operations (OCO).

Table 2. The patient case mix of medical evacuees during Operation Iraqi Freedom 07-09.*

Combat Injuries	>40%
Disease and nonbattle injuries	40%
Others	<20%
US casualties (military and civilian)	>70%
Pediatric	8%
Burns	5%

*Data sourced and compiled internally by military analysts during deployment, not available to the general public.

Transfers from the point of injury to level II/level III are primarily provided by Army MEDEVAC units assigned to dedicated geographical sectors. The primary healthcare provider on these transfers are Army (or other service equivalent) flight medics, and/or flight surgeon or a physician's assistant. These healthcare providers are specially trained for providing urgent and routine en route care on helicopters. On the other hand, the nurses selected to perform the en route care mission in the early years of combat operations had minimal or no formal training to function as sole providers in a helicopter. Informal surveys among MEDEVAC flight nurses during the 15 months of OIF 07-09 (2007-2009) indicated that approximately 14% of Army nurses providing en route care in the ITO had received formal military (Joint En Route Care Course) or civilian training to function in the role, while over 96% of the nurses providing en route care self-reported critical care or emergency room training (Table 1).* The patient case-mix of those medically evacuated during OIF 07-09 is presented in Table 2.†

Table 1. Self-reported sources of training of available en route care nurses in Iraq during Operation Iraqi Freedom 07-09 (N=72).*

En route Care Training Source	No.	% N
Military trained (Joint En Route Care Course)	8	11%
Civilian en route care trained	2	3%
Critical care or emergency room trained nurses	69	96%

*Informal surveys by the author during deployment.

The typical MEDEVAC flight in either combat theater lasted 25 to 60 minutes.† Besides operating in a dangerous active combat corridor, the en route care nurses also operated in constrained environments with limited to no light, high decibel noise, and severe vibrations that impacted not only basic patient assessment and interventions, but also high to very high equipment failure rates. Regardless of the limitations, both the medical task force and the combatant commanders expected en route medical care to maintain the same standards of nursing care as found in a fixed facility. During OIF 07-09, a period of 15 months, approximately 18% (over 700) of over 3,800 total aeromedical evacuation patients from all level II and level III facilities in the ITO required en route care nurses to provide the higher level of nursing care.†

CLINICAL PROBLEM

Transport of any critically ill patient begins with a careful consideration of the necessity of the transport, assessment of the patient condition, defining command and control for the process, communication between care teams, preparation and packaging of the patient for transport, premovement equipment checks, transportation and en route care, transfer of care at the staging facility, proper documentation, and consideration for events reporting and process

*Self-reported to the author during informal surveys in theater.
†Data extracted and compiled by military analysts during deployment, not available to the general public.

improvement.[2] Considering the complexities of transporting patients, the importance of evidence-based decision making in a resource-constrained combat environment in the delivery of quality healthcare is well understood. The program discussed here focused not only on the problem of lack of indicators to measure en route care nursing workload, but also the lack of benchmarks to measure the quality of en route nursing care in a combat environment.

For the first time in MEDEVAC operations in OIF, a set of 5 metrics were developed to quantify both the workload and the quality of care. The 5 metrics not only allowed the level III facilities to capture the workload, but also allowed the medical treatment facility commanders and nursing leaders to make informed, data-driven decisions to improve en route care processes. To quantify the workload, a new Operational Interfacility Transport Acuity Workload Tool, developed by the Army Medical Department Center and School Directorate of Combat and Doctrine Development, was used by all level II and level III facilities in the ITO. Operational metrics were used to measure, analyze, control, and improve local operations in a process workflow. The qualitative metrics measured those processes that are not easily quantifiable but define the standards of en route care delivered during the en route care missions. In addition the program also supported performance improvements while sustaining efficiencies, allowed appropriate levels of internal controls and incorporated best practices from current and civilian aeromedical evacuation programs. The performance metrics were benchmarked[3] (benchmarking identifies "best-in-class organizational performance") and improved processes were applied to achieve superior results.

Performance Metrics

The performance metrics developed under the operational category include throughput and patient workload, while the qualitative category includes metrics which measure processes not easily quantifiable but define the standards of en route care. These metrics include nursing/medical interventions during en route care, equipment failure-related interventions; and performance improvement initiatives. Throughput was defined as the output of a process over a specified period of time. with results displayed as a percentage.[3] Patient workload measured the actual workload and reported patient acuities as acuity category (category 1-6). Acuity categories 5 and 6 are considered severely ill, similar to the patient acuity profile provided by the Workload Management System for Nursing at a United States or overseas Army medical treatment facility with inpatient capability. Within qualitative metrics, nursing/medical interventions included all nursing/medical interventions, such as titrating paralytics, sedation, fluids/blood, adjusting oxygenation, etc, during each en route care flight. The interventions included actions such as reversing/supporting hemodynamic changes, ventilator support, manual oxygenation support efforts via the bag-valve method, and medications and blood transfusions among others. Nursing/medical intervention was entered for each patient workload acuity category. Equipment failure interventions (EFI) included patient interventions due to equipment failures, such as failure of ventilators/ventilator settings, Propaq (Skaneateles Falls, NY) monitors, medication infusion pumps, oxygen tanks, and other onboard equipment to maintain patient safety and stability. An EFI was also entered for each patient workload acuity category. Finally, the performance improvement (PI) initiatives at each CSH/level II facility were captured as a metric. Each facility was allowed to improve a site-specific process because of very dissimilar combat and operational environments. For example, patient acuities at level II and level III facilities with head trauma teams would be vastly different and require completely different equipment, as well as different patient en route care protocols. Allowing each facility the leverage to focus on their site-specific deficiencies allowed ownership and added effort. Each facility conducted an assessment of priority of initiatives needed to improve patient care and/or processes. Example of PI results in this study included improved patient outcomes for mechanically ventilated patients and initiatives to reduce hypothermia.

Performance Metric Outcomes

The data presented in Figure 1 are site-specific to TF86 in Iraq from September 2007 through September 2008. The data compiled during the 12-month period provided the en route care program officer-in-charge (OIC) an overview of the structure of the en route care processes, including pretransport assessment, and preparation and discharge transportation and documentation processes. In addition, this metric highlighted for the hospital command the quality of triage, registration and care processes, staffing requirements, and specialist and diagnostic availability. Clinical

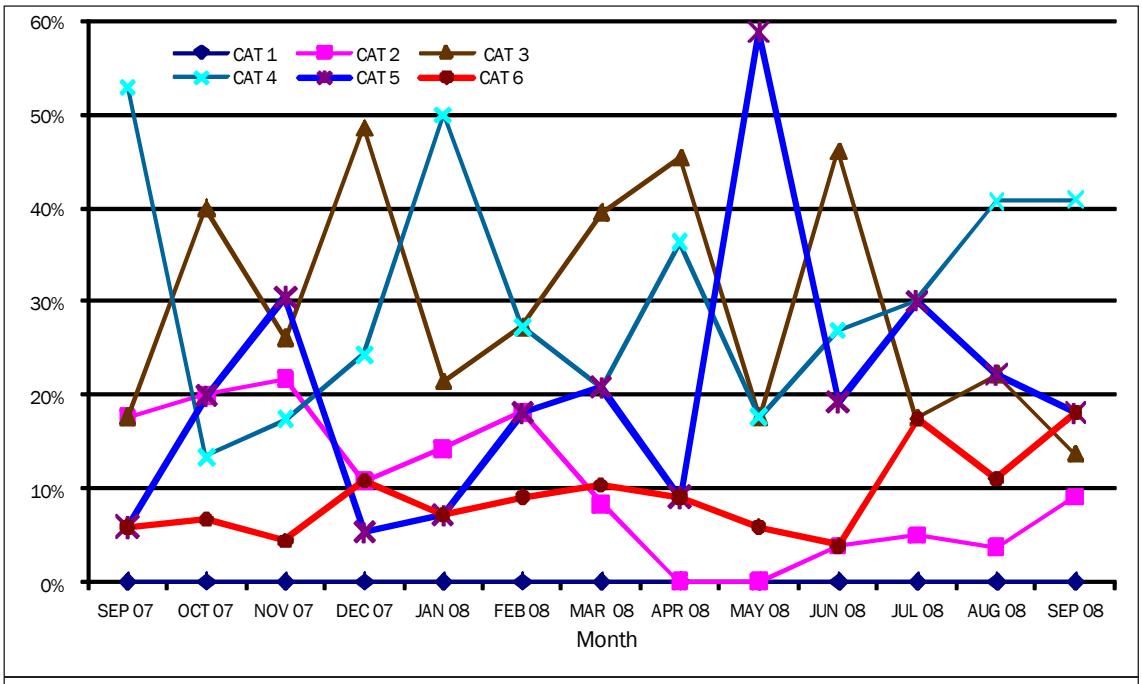


Figure 1. Distribution of acuity level categories by percentage for patients transported on en route care missions in Iraq by TF86 assets for each month from September 2007 through September 2008. Categories represent increasing severity of injury/sickness from 1 (lowest) to 6 (very seriously injured/ill).
Source: Data extracted and compiled by military analysts during deployment, not available to the general public.

quality management was able to use this metric to assess the emergency medical treatment (EMT) unit, the intensive care unit, the intermediate care ward, the operating room (OR) capacity, bed availability and tracking, and interaction between EMT, OR, and inpatient sections. As a lagging indicator, throughput allowed the leaders to match periods of high intensity combat operations in the areas of operations with the increased need for en route care nursing staff. For example, in May 2008, there was a large spike in the number of en route care missions concurrent with an increase in operations in many parts of Baghdad. The use of this metric as a predictor to adjust staffing based on increases in combat operations requires further investigation.

Patient workload measures the patient acuities over a period. The Operational Interfacility Transport Acuity Workload Tool was used for the first time in any combat theater to capture the workload data (Figure 2). The workload capture tool was tested for reliability and validity. The inter-rater reliability of the workload tool, tested at 5 facilities in the ITO, was 0.933 and showed a high validity. This metric functioned as an indicator to plan, monitor, and evaluate the en route care nurse's performance, as well as allow the en route care program OIC, the MEDEVAC committee, and senior nurse leaders to monitor variances between patient

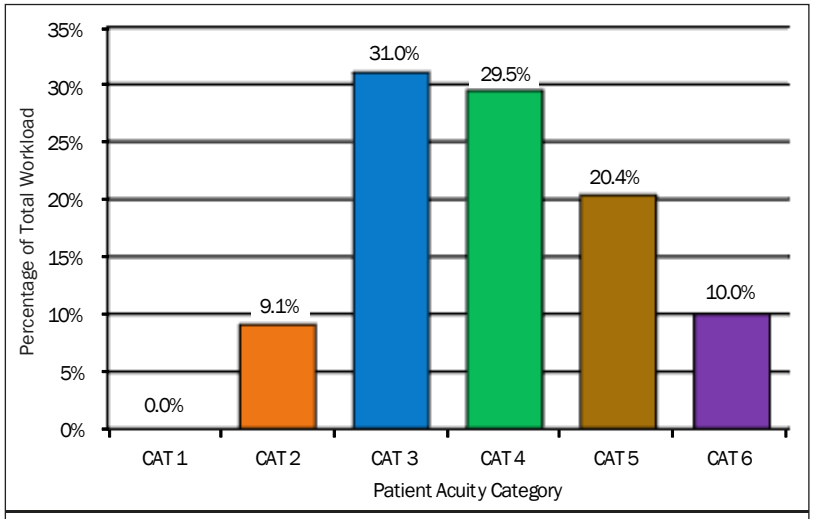


Figure 2. Distribution of patient acuity categories by percentage of the total number of patients transported on en route care missions in Iraq by TF86 assets from September 2007 through September 2008. Categories represent increasing severity of injury/sickness from 1 (lowest) to 6 (very seriously injured/ill). Source: Data derived and compiled by the author.

outcomes and take corrective actions. This was accomplished through documentation that was standardized throughout the ITO.

Prior to this theater-wide program, major variances were noted, not only in what was documented, but also the different forms used to capture the patient care data. The use of standard processes enhances the validity of a workload capture system and a reliable, validated nursing workload capture tool is a key source of information.[4] The results of the workload metric provided the decision makers and researchers a retrospective view of the patient workload in the ITO, something that had not been accomplished since the beginning of the war. The results determined by the metric highlighted the category of patients transferred during en route care missions, with over 30% patients categorized as severely or very severely injured/ill, as shown in Figure 2. Qualitative metrics, nursing interventions, and equipment failure interventions answer the question of the value-added of an en route care nurse operating in a helicopter. All MEDEVAC missions (routine through urgent) include a flight medic, a specially trained crew member capable of providing necessary critical patient care in prehospital settings and in the aviation environment, and is certified in basic trauma life support, advance cardiac life support, and pediatric advanced life support.[5] However, the majority of patients were either postsurgical stabilized, or had received initial interventions/resuscitation in the emergency rooms. This added complexity of postsurgery medication management or the unstable status of the patient required a higher level of care.

For example, the management of complex ventilator settings, in addition to the use and management of sedation and paralytics in head trauma patients, clearly required skills that are maintained by nurses and physicians with formal critical and/or emergency room training or experience. As shown in Figure 3, en route care nurses intervened during 40% and 80% of total en route care missions. The EFI highlighted as high as 20% of the en route care missions required the en route care nurse to take corrective actions with patient equipment. The value added of this metric was the evidence of a successful transition to standardize patient equipment in January 2008. Beginning in early 2008, the trend showed a decrease in the number of EFI.

Finally, the last metric measured at TF86 was PI. The PI metric at TF86 measured the number of hypothermia cases per month. Combat trauma patients have a high percentage of penetrating or burn injuries. Hypothermia is a prehospital physiologic marker, and independent contributor to overall mortality.

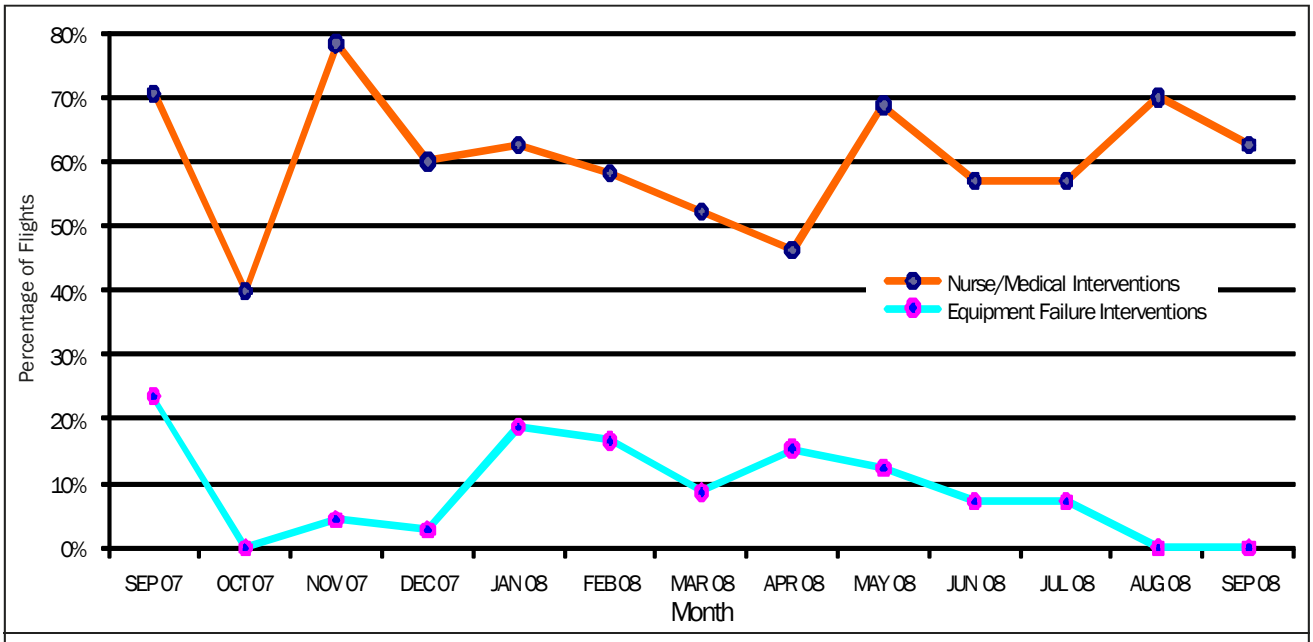


Figure 3. Percentage of en route care missions in Iraq by TF86 assets requiring nursing/medical or equipment failure interventions by onboard flight nurses for each month from September 2007 through September 2008.
Source: Data extracted and compiled by military analysts during deployment, not available to the general public.

Prevention of hypothermia could reduce resource use and improve survival. In a study[6] of 2,848 patients in Iraq, 18% were found to be hypothermic with temperatures below 36°C. Hypothermia was significantly correlated ($P<.05$) with admission Glasgow Coma Scale,* tachycardia, hypotension, lower hematocrit, and acidosis. Hypothermic patients had a significantly higher blood product and factor VIIa requirement. Hypothermia was an independent predictor of operative management of injuries, damage control laparotomy, factor VIIa use, and overall mortality ($P<.05$). Prior to a standardized packaging process at TF86, between 12% and 15% patients had recorded hypothermia during or after medical evacuation. With the implementation of a standardized process, including the use of the Hypothermia Prevention and Management Kit (HPMK) and warmed intravenous fluids prior to the evacuation, the hypothermia cases had dropped to less than 3% during the 12-month period. The HPMK is a NASA-developed, lightweight, strong, and flexible self-heating liner with reflective reinforced shell, designed to maintain temperatures up to 41°C. These low cost liners were one-time use items, and management of hypothermia was successfully achieved, especially during the low temperatures at night in the Iraq desert.

OTHER OUTCOMES

A number of other structural and process improvements were also documented after the implementation of the theater-wide en route care program. Notably, the success of the program was heavily influenced by the establishment of a multidisciplinary MEDEVAC committee and the use of clinical practice guidelines, developed by the Joint Theater Trauma Registry (JTTS). The MEDEVAC committee, initially established by the preceding task force, was responsible for the oversight of all en route care missions and operations at TF86. The committee also ensured the efficacy of the standardized processes in place for en route care, and reported directly to the TF86 Executive Council. The TF86 Medical Director served as the supervising medical consultant for all en route care issues. The en route care program director (additional duty of intensive care unit and emergency medical treatment clinical nurse OIC), provided direct supervision of the en route care nursing competencies and reported to the deputy commander of nursing. Another role of the committee was to perform periodic risk assessment on 10% of records per month to ensure there was no deviation from en route care policies. This audit role not only ensured standardization of practice during en route care, but also standardized documentation forms and procedures, as well as the equipment and supplies carried by the en route care nurse. Another outcome was the standardization of medications carried by the en route care nurse. Based on the patient's diagnosis, standardized medication packets were carried, including intravenous fluids, sedatives, paralytics, vasoactive/vasopressors, and controlled medications (narcotics). Special focus was also placed on head trauma, considering the limitations and special equipment required during en route care. For example, from a therapeutic perspective, the use of hypertonic saline for hyperosmolar therapy in traumatic brain injury (TBI) is beneficial in disaster and wartime practice, not only because of its ability to effectively lower intracranial pressure, but also due to its ability to preserve or improve hemodynamic parameters in patients who have experienced polytrauma.[7] A 3% Hyperosmolar solution was a standard medication during patient transfers with head trauma/TBI.

The JTTS clinical practice guidelines on the intratheater air transport of patients from a level II facility to a level II or III facility, and from a level III facility to a level III facility provided guidelines for en route care activities during such transport. The JTTS, like civilian trauma systems, was designed to provide a seamless transition in combat casualty care from the point of injury through each echelon of care to further integrate casualty care resources at all echelons among all services, and to ultimately achieve improved combat casualty outcomes. The contributions of the JTTS have resulted in improved combat casualty outcomes through the development of a number of clinical practice guidelines for medical care in a combat theater. In addition, with data collected on over 17,000 combat casualties, the JTTS standardized methods of medical documentation, and supported implementation of a sophisticated performance improvement program.[8]

*The Glasgow Coma Scale is a quick, practical, standardized system for assessing the degree of consciousness in the critically ill and for predicting the duration and ultimate outcome of coma, primarily in patients with head injuries. The system involves eye opening, verbal response, and motor response, all of which are evaluated independently according to a rank order that indicates the level of consciousness and degree of dysfunction. Source: *Mosby's Medical Dictionary*. 8th ed. St Louis, MO: Mosby-Year Book, Inc; 2009.

Summary

En route care in an austere environment, such as the battlefields of Iraq and Afghanistan, definitely presents many challenges. The many lessons that were learned in the Iraq theater demonstrate the need for adequate preparation of nurses involved with the en route care missions. The intratheater transport system is a unique and significant part of the Force Health Protection concept for "clearing the battlefield." Medical evacuation is the timely, efficient movement and en route care of patients by medical personnel from the battlefield and/or medical facilities to a higher level of care during the full spectrum of military operations. The goal is to provide every patient who is injured on the battlefield or in the areas of operations with the optimal opportunity for survival and the maximum potential for a functional recovery. Combatant commanders expect clinicians to provide expert care at medical facilities and during transport to a higher level of care. With a standardized approach, we were able to make many structural and process improvements to the program, making it not only robust and flexible to meet the unique challenges in an area of operation, but also easily exportable to any area of combat operations or disaster relief. The new Operational Interfacility Transport Acuity Workload Tool, with a high reliability and validity, can be effectively used in any environment, peacetime or combat. The tactical deployment of clinical practice guidelines resulted in positive patient outcomes throughout the continuum of healthcare delivery. In addition to the outcomes mentioned in the study, strategic implications of the en route care program for senior leaders include the establishment of a process to support decision making based on data driven metrics, improvements in quality of nursing care delivery, and decision making ability of needs-based nurse staffing requirements. Future research could focus on further refinements of the workload capture tool in humanitarian and peacekeeping/peacetime missions, both at home and abroad. Further study is indicated to establish a process to predict increased need for medical assets, both for en route care and to ensure continued healthcare delivery during high-tempo combat operations in the theater of operations.

References

1. *Field Manual 4-02.2: Medical Evacuation*. Washington, DC: US Dept of the Army; May 8, 2007.
2. Pauldine R, Gerold KB. Transport of the critically ill patient. *Contemp Crit Care*. 2008:5(8):1-11.
3. George ML, Rowlands D, Price M, Maxey J. *The Lean Six Sigma Pocket Toolbook*. New York: McGraw Hill; 2005.
4. US Army Office of Business Transformation. Lean Six Sigma. 2011. Available at: http://www.armyobt.army.mil/cpi-kc-tools-lss.html. Accessed April 15, 2011.
5. US Army School of Aviation Medicine. Flight Medic Course, Medical Medic Course (300-F6). Available at: http://usasam.amedd.army.mil/fmc.htm#History. Accessed February 2, 2011.
6. Arthurs D, Cuadrado D, Beekley A, Grathwohl K, Perkins J, Rush R, Sebesta J. The impact of hypothermia on trauma care at the 31st Combat Support Hospital. *Am J Surg*. 2006;191(5):610-614.
7. Venticinque SG, Grathwohl KW. Critical care in the austere environment: providing exceptional care in unusual places. *Crit Care Med*. 2008;36(suppl 7): S284-S289.
8. Smith KK. Critical care nursing in an austere environment. *Crit Care Med*. 2008;36(suppl 7):S297-S303.

Author

MAJ Nagra is Chief, Clinical Modeling Branch, Manpower Division, Program Analysis and Evaluation, US Army Medical Command, Fort Sam Houston, Texas.

Optimizing Performance in the Combat Casualty Continuum

Kathleen D. Martin, RN, MSN
Mary Ann Spott, MPA, MSIS
Elizabeth Schell, RN, MSN
Sheryl Neal, RN, MBA

Trauma System

Participation in the trauma center verification process almost invariably results in significant improvements in patient care, along with enhancement of institutional pride and commitment to care of the injured patient.[1] Further, implementation of trauma systems in the civilian sector has long been known for the resulting impact on decreased morbidity, hospital mortality, length of stay, and costs, with correlating improved contribution margin.[2,3] Wounded combatants of today's conflicts suffer a variety of injuries not encountered in the civilian sector, specifically related to improvised explosive devices where primary, secondary, and tertiary blast and blast overpressure phenomena produce devastating injuries. Therefore, implementation of the trauma model in the military medical system was sought on the premise that trauma care within the military is constant and long-term, whether during war or peace. No one is more deserving of this enhanced care than our Soldiers, Marines, Sailors, and Airmen.

Trauma Center Development and Lessons Learned

Landstuhl Regional Medical Center, the US military echelon IV medical treatment facility (MTF) in Germany, was a low acuity, low volume institution before Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). A surge in patient volume with increasing complexity in treatments required multiple resources and expertise to enhance care, which is typically available at civilian trauma centers. Landstuhl is the evacuation hospital and main referral center for casualties coming from OIF and OEF and, consequently, now is the center of the largest trauma system in the world. The facility receives patients from echelon III MTFs in Iraq, Afghanistan, Africa, and Europe. After restabilization, further surgery, and preparation for flight, combat casualties are transferred to the United States. Landstuhl has been described as the "prism," centered in the evacuation chain which takes in a chaotic, complex compilation of nationalities, diagnoses, medical records, and damage control care processes from combat theaters, as represented in Figure 1. The output is a stable group of patients with consistent, clinical practice-guided evaluations and complete and organized medical records who are evacuated to facilities throughout the world.

Army leadership committed to level II trauma center verification in 2005. As shown in Figure 2, key positions such as trauma medical director, trauma nurse director, trauma performance improvement nurse coordinator, trauma nurse coordinator, and trauma registrar were then created. The trauma program nurse director position has responsibility for multiple aspects of the trauma program, such as trauma-related performance improvement, registry, injury prevention, research, publications, consultation, and involvement in national trauma organizations. The key responsibility of the trauma performance improvement coordinator is to assist nurses and other associated services in the coordination of a plan of care. This is accomplished through collaboration with physicians, nurses, and other associated services in developing a comprehensive plan of care and identifying variances

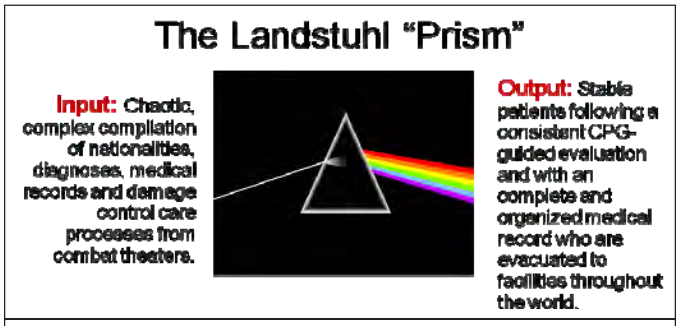


Figure 1. Representation of the Landstuhl Regional Medical Center's position in the military trauma system in support of US and coalition combat operations in Europe, Asia, and Africa.

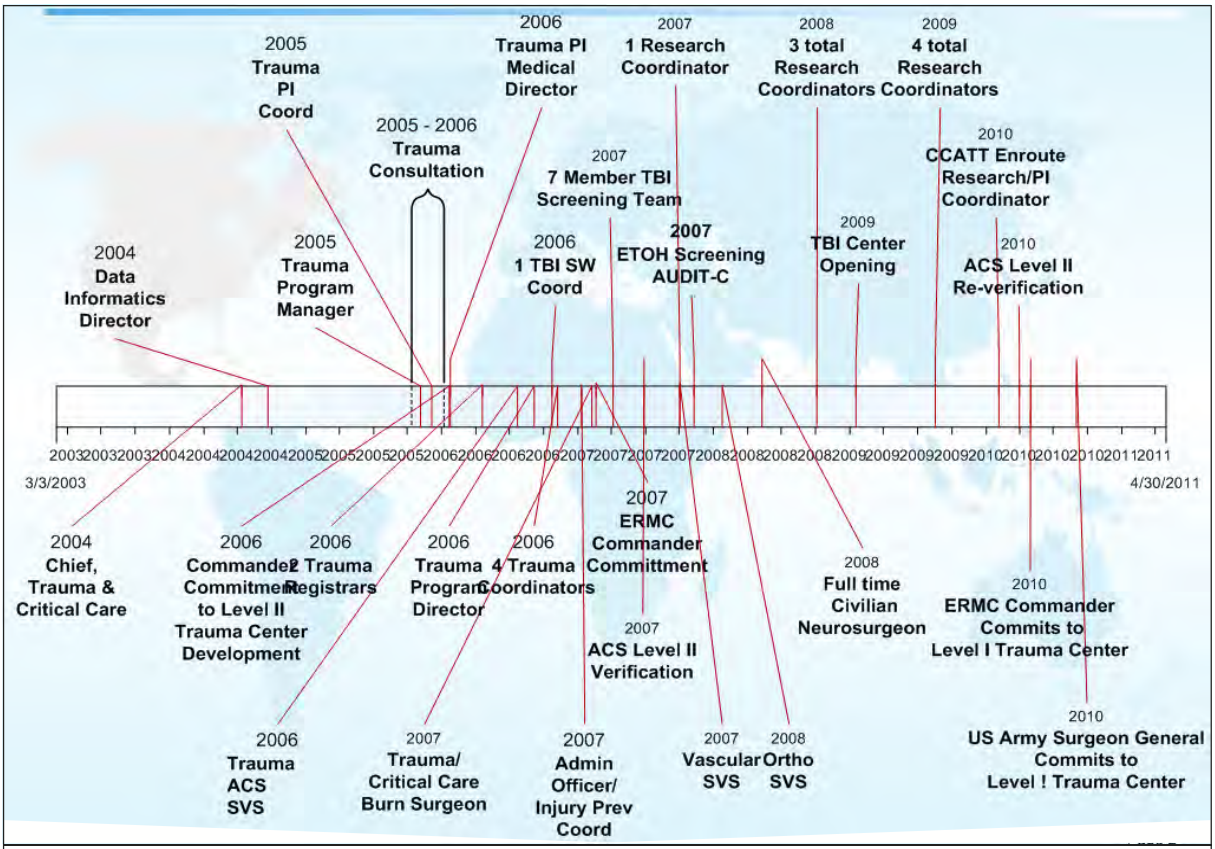


Figure 2. Timeline of development of the Landstuhl Regional Medical Center trauma center.

in that plan of care, thus enhancing outcomes for combat casualties. Key to the continuum of care of military trauma patients is feedback to both referring (combat theater) and receiving (United States) military treatment facilities.

The education and trauma multidisciplinary committees were implemented in early 2006, and the timeline shown in Figure 3 was established. A comprehensive gap analysis was undertaken in November 2006, outlining areas of noncompliance with the criteria of the American College of Surgeons Committee on Trauma.[4] Additional facility capabilities were harnessed, including the development of a web-based joint patient tracking application and an all-encompassing case management system, creation of a Deployed Warriors Medical Management Center, and establishment of a distinct trauma program. A comprehensive military trauma registry, the Joint Theater Trauma Registry, and performance improvement processes were then implemented. The trauma program was enhanced by the creation of a weekly clinical video teleconference (VTC) to discuss specific patient issues and provide feedback across the continuum of care (Iraq, Afghanistan, Germany, and the United States) and establishment of a monthly worldwide trauma VTC to quickly identify and resolve common system issues. Care was enhanced with the development of combat-related clinical practice guidelines, development of critical capabilities (including dialysis), and implementation of an acute lung team including critical care transport nurses who are able to treat and transport patients with catastrophic pulmonary injury.[5] Additional education and clinical practicum were undertaken to train Landstuhl providers and critical care nurses at a German facility (Regensburg Hospital) in use of portable extra-corporeal membrane oxygenation which can be used enroute from theater to Landstuhl.

Resulting improvements in care and outcomes, examples of which are shown in the Table, are reflected in a system-wide standardization of care coupled with a robust concurrent performance improvement process, which led to further improvements in care.

TRAUMA REGISTRY

Early in both Operation Enduring Freedom and Operation Iraqi Freedom, collection of combat casualty data was independently completed via spreadsheets or home-grown databases at multiple MTFs worldwide. In an effort to improve care throughout the trauma care continuum, especially the battlefield, the Joint Theater Trauma System (JTTS) was developed. The Joint Theater Trauma Registry (JTTR), the data depository collecting and hosting all US military trauma casualty related data, is a component of the JTTS. This unique trauma registry allows for direct data input from all echelons of combat casualty care, and is used for data abstraction and analysis by Active and Reserve nurses of the Army, Air Force, and the Navy.

The first JTTS team, consisting of a trauma medical director (trauma surgeon) and 6 trauma nurse coordinators, deployed in 2004. The JTTR was implemented at Landstuhl in January 2007, and fielded in theater with the trauma nurse coordinators the following July.[10] Expansion of the JTTS trauma coordinators to allow enhanced coverage in Afghanistan, and at coalition sites such as Kandahar and Bastion, began in 2009. In addition, JTTS nurses have taken responsibility for the growth of medical evacuation (MEDEVAC) data acquisition and MEDEVAC performance improvement with a specific focus on improvements in transport times following combat casualty injuries.

Currently, data is directly input by echelon II mobile surgical teams deployed throughout the Iraq and Afghanistan theaters, more permanently based echelon III combat support hospitals, a sustaining echelon IV medical center in Germany (Landstuhl), and established echelon V military treatment facilities in the United States. The information in the JTTR also draws data abstracted from multiple electronic datasets, including the US Transportation Command Regulating and Command & Control Evacuation System, the Theater Medical Data Storage, the Composite Health Care System, and Essentris (CliniComp, International, San Diego, CA), the electronic medical record system. Information is also abstracted from paper medical records.

Military specific data elements within the JTTR include expanded demographic data, including military branch, rank, and military occupation. Casualties may have been treated in as many as 4 distinct MTFs before arrival at the echelon IV facility in Landstuhl. Varying data from each echelon along the combat casualty's route of evacuation are entered into the JTTR.

In addition to ICD-9* and standard Abbreviated Injury Scale (AIS) codes, all injuries are coded using a military version of the AIS. The military version of the AIS was developed through a collaboration of military physicians and the Association for the Advancement of Automotive Medicine in order to better represent the compound injuries from improvised explosive devices. It allows for a heavier weighting of lower extremity injuries, penetrating head injuries, and calculation of the abbreviated injury score from the 3 worst injuries. The traditional injury severity score allows you to take only the worst injury in each region, which greatly underserves penetrating injury and blast injury.

A robust performance improvement tracking system is integrated into the JTTR to allow clinical providers and trauma coordinators to concurrently track 55 user

Examples of improvements in care and outcomes realized from the implementation of level II trauma center capability at the Landstuhl Regional Medical Center.

Category	Outcome/Lessons Learned
Burn care	Implementation of the burn flowsheet with documentation of continuous fluid resuscitation decreased morbidity and mortality from burn wounds.[6]
Compartment syndrome	ALARACT (all Army action) memo mandated a high index of suspicion for compartment syndrome and a standardized approach to guide providers in the evaluation and treatment of patients with extremity war wounds, including the role of prophylactic and therapeutic fasciotomy.[7]
Infection control/ prevention	Early recognition of Mucor and Aspergillus fungal infection, which allowed initiation of a clinical practice guideline designed to combat angioinvasive fungal infections.
Mild traumatic brain injury	Development of a comprehensive screening process of all Warriors for incidence of traumatic brain injury before they are returned to duty or manifested to the United States.[8]
Nutrition	Optimization of nutritional status with early initiation and ongoing nutritional support of the critically ill or injured patient.[7]
Post-splenectomy immunization	Implementation of a clinical practice guideline which ensured that all post-splenectomy wounded warriors receive appropriate vaccination and nursing documentation of its administration.[7]
Skin integrity	Implementation of clinical guidance in the assessment and management of skin integrity in order to assess patients for risk of pressure ulcers, prevent pressure ulcers, and treat pressure ulcers using standards of nursing practice guidelines.[9]

*International Classification of Diseases, 9th Revision

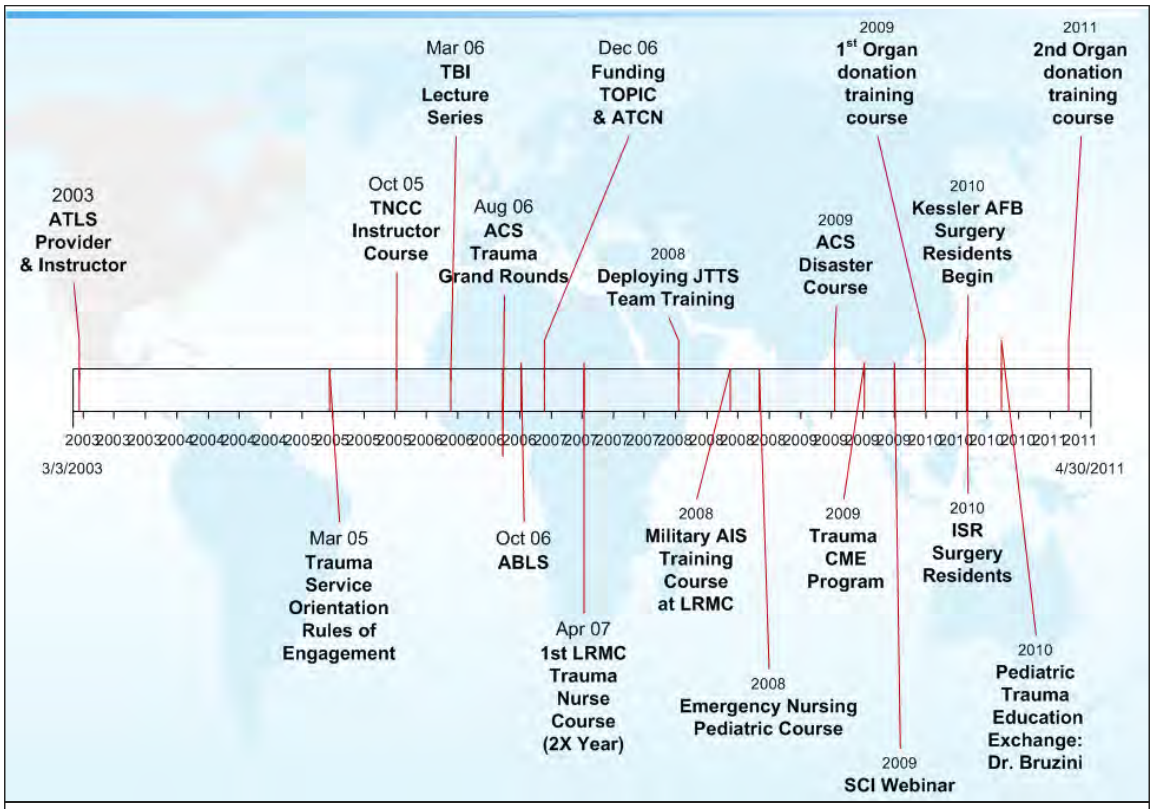


Figure 3. Timeline for trauma specific education in preparation for opening the Landstuhl trauma center.

defined audit filters and 61 specific complications, as well as document primary, secondary, and tertiary case reviews. The JTTR at the echelon IV MTF requires routine collection of 367 data elements for each casualty. Despite the high number of required data elements, the need to access multiple widespread data sources worldwide, and a short inpatient length of stay, data abstraction is still routinely completed within 7 days of discharge. The data is validated and closed within 2 weeks of discharge in more than 90% of cases. The national benchmark is to close charts within 6 weeks of abstraction. The strength of the trauma registry program at Landstuhl has earned the praise of the American College of Surgeons Committee on Trauma.

Based upon the positive accomplishments of the deployed JTTS trauma coordinators in theater, the Army Nurse Corps resolved to assign a colonel to the JTTS leadership in the Joint Trauma System structure in San Antonio to ensure the capture of lessons learned. The objective is to transition the lessons learned into data and evidenced-based clinical practice guidelines, which would drive the composition and design of training at the US Army Nursing Leader Academy.*

Performance Improvement

Trauma performance improvement is a continuous multidisciplinary effort to measure, evaluate, and improve both the process of care and the outcomes. The American College of Surgeons Committee on Trauma defines it as "the continuous evaluation of a trauma system and trauma providers through structured review of the process of care as well as the outcome."[4] The trauma performance improvement program at Landstuhl was developed with the goals of monitoring the process and outcome of patient care, to ensure the quality and timely provision of such care, to improve the knowledge and skills of military trauma care providers, and to provide the institutional structure and organization to promote improved outcomes for wounded Warriors. The focus of the development of the program began with structure, which included staffing, equipment, education, and the physical space. The second phase centered on development of a system-wide clinical practice guideline which was implemented both in the theaters of operations and Landstuhl. As the program matured,

*See "Designing and Implementing the Army Nursing Leader Academy" on page 18.

the focus shifted more to outcomes such as morbidity, mortality, process parameters, and compliance with clinical practice guidelines. The primary purpose of the trauma performance improvement program is the delivery of optimal care to injured Warriors treated at Landstuhl. The care of injured patients depends on a complex network of people working together as a team.[11] The urgent nature of trauma care relies on each member of the team to perform well on a regular basis, with the goal of optimal communication which results in improvements in clinical care and patient outcome (Figure 4).

The performance improvement program is designed to monitor the system and determine ways in which it can be improved. In order to sustain effectiveness, the performance improvement process must be inclusive, drawing from the expertise of each individual member of the trauma care team. In addition, the performance improvement program must always maintain certain principles so that it can function in a fair, autonomous way. These principles include objectivity; efficiency; effectiveness; and a process that is care-directed, data-driven, issue-oriented, education-oriented, and nonpunitive.

The mature trauma performance improvement plan was integrated into the overall hospital performance improvement plan to support the institutional mission, vision, and goals. The plan was inclusive of the trauma scope of care, which includes all echelons of care from the battlefield through return to the United States, and captured all-encompassing system events, nursing care events, provider issues, and variances from established clinical practice guidelines. Landstuhl uses institution-specific audit filters and a selection of pertinent American College of Surgeons audit filters which are continually assessed. Intensive care unit nursing staff monitor ventilator associated pneumonia bundles, which include elevation of head of bed, sedation holidays, peptic ulcer prophylaxis, and oral care. Central line bundle is also monitored by nursing, which includes hand hygiene, barrier precaution on insertion, Chlorhexidine use, optimal site selection, and prompt removal of unnecessary lines. Landstuhl has also developed institution-specific audit filters unique to combat casualty care. Primary review of performance occurs concurrently with data abstraction and collection by trauma nurse coordinators while the care is still being delivered. Issues are identified and validated as they occur. This information may be gleaned during morning report, patient care rounds, chart review, and direct staff/patient interaction. Daily patient rounds are multidisciplinary, and include the charge nurse, bedside nurse, trauma nurse coordinators, infectious diseases, air evacuation team members, and nutrition, and are lead by the trauma surgeons and intensivists. Daily goals are identified by using input from all disciplines. Changes in a patient's plan of care or implementation of clinical practice guidelines may be influenced immediately. Prompt feedback to providers will occur concurrently. A rounding tool was formatted to enhance all disciplines' participation, and is tracked by the trauma nurse coordinators for compliance. Secondary review of identified events may require additional analysis, input from a variety of providers, and/or review by the trauma nurse director,

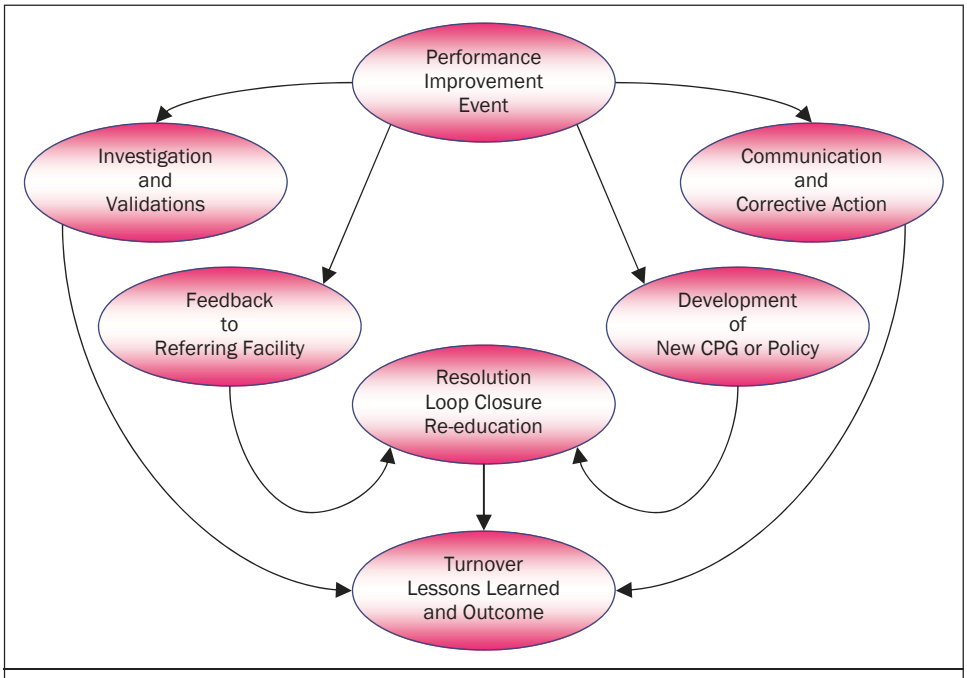


Figure 4. Schematic illustration of the goal of communication in performance improvement: improve care and outcome.

trauma medical director or intensive care unit nursing leadership. Issues are validated, supplementary information collected and analyzed In some situations the case may be closed. If peer review is indicated, the case is forwarded to the Trauma Conference or Trauma Multidisciplinary Peer Review. Criteria for determining which cases go to these committees are: all deaths, selected complications, unique patient populations, focused reviews, and all referred cases. Cases are reviewed, factor determinations made, preventability established, surgical grading defined, corrective actions developed, and loop closure, if indicated at the time. Systems issues are reviewed in the Trauma Operational Process Performance Committee.

Conclusion

Landstuhl Regional Medical Center strives continually to provide world class comprehensive and compassionate care to our Warriors, their Families, retirees, and all other directed beneficiaries, while maintaining unit and personal readiness to meet the demands of our nation. Establishment of a verified trauma center, with a concurrent performance improvement process coupled with implementation of the JTTR has resulted in improved outcomes for our combat casualties and increased identification and closure of performance improvement events. Contributions of trauma nurses to care of combat casualties have focused on the unique and complex care of our wounded Warriors in order that they attain, maintain, or recover optimal health and quality of life. Because trauma nurses work as part of a team along the combat casualty continuum, they are able to assess, plan, implement, and concurrently evaluate care. Army nursing must continue to focus on nursing as a science, and a field of knowledge based on evidence.

References

1. Ehrlich PF, Rockwell S, Kincaid S, Mucha P Jr. American College of Surgeons, Committee on Trauma Verification review: does it really make a difference?. *J Trauma*. 2002;53(5):811-816.
2. Piontek FA, Coscia R, Marselle CS, Korn RL, Zarling EJ. Impact of American College of Surgeons verification on trauma outcomes. *J Trauma*. 2003;54 (6):1041-1046.
3. DiRusso S, Holly C, Kamath R, et al. Preparation and achievement of American College of Surgeons level I trauma verification raises hospital performance and improves patient outcome. *J Trauma*. 2001;51(2):294-299.
4. American College of Surgeons Committee on Trauma. *Resources for Optimal Care of the Injured Patient*. Chicago, IL: American College of Surgeons; 2006.
5. Fecura SE Jr, Martin CM, Martin KD, et al. Nurses role in the Joint Theater Trauma System. *J Trauma Nurs*. 2008;15(4):170-173.
6. Chung LL, Blackbourne LH, Wolf SE, et al. Evolution of burn resuscitation in Operation Iraqi Freedom. *J Burn Care Res*. 2006;27(5):606-611.
7. *Joint Theater Trauma System Clinical Practice Guideline: Burn Care*. US Army Institute of Surgical Research Web site. Available at: http://www.usaisr.amedd.army.mil/cpgs/Burn_CPG_20_Dec_10.pdf. Accessed August 31, 2011.
8. Dempsey K, Dorlac W, Martin K, et al. Landstuhl Regional Medical Center: traumatic brain injury screening program. *J Trauma Nurs*. 2009;16(1):6-12.
9. Steele N, Ketz A, Martin K, Garcia D, Womble S, Wright H. Rewards and challenges of nursing wounded warriors at Landstuhl Regional Medical Center, Germany. *Nurs Clin North Am*. 2010;45 (2):205-218.
10. Glenn MA, Martin KD, Monzon D, et al. Implementation of a combat casualty trauma registry. *J Trauma Nurs*. 2008;15(4):181-184.
11. De Jong MJ, Martin JD, Huddleson M, et al. Performance improvement on the battlefield. *J Trauma Nurs*. 2008;15(4):174-180.

Authors

Ms Martin is the Trauma Program Nurse Director, Landstuhl Regional Medical Center, Germany.

Ms Spott is Deputy Director, Joint Trauma System, Army Institute of Surgical Research, Fort Sam Houston, Texas.

Ms Schell is the Trauma Performance Improvement Coordinator, Landstuhl Regional Medical Center, Germany.

Ms Neal is the Trauma Data Informatics Coordinator, Landstuhl Regional Medical Center, Germany.

Optimizing Nursing Care Delivery Systems in the Army: Back-to-Basics with Care Teams and Peer Feedback

COL Kathy Prue-Owens, AN, USA
LTC Miko Watkins, AN, USA
COL (Ret) Kelly A. Wolgast, AN, USA

Abstract

The Patient CaringTouch System emerged from a comprehensive assessment and gap analysis of clinical nursing capabilities in the Army. The Patient CaringTouch System now provides the framework and set of standards by which we drive excellence in quality nursing care for our patients and excellence in quality of life for our nurses in Army Medicine. As part of this enterprise transformation, we placed particular emphasis on the delivery of nursing care at the bedside as well as the integration of a formal professional peer feedback process in support of individual nurse practice enhancement. The Warrior Care Imperative Action Team was chartered to define and establish the standards for care teams in the clinical settings and the process by which we established formal peer feedback for our professional nurses. This back-to-basics approach is a cornerstone of the Patient CaringTouch System implementation and sustainment.

Warrior Care Imperative Action Team

The established charter of the Warrior Care Imperative Action Team (WC IAT) is to optimize nursing care delivery systems by fully integrating nursing capability within the stated Army Medical Department (AMEDD) and Army Nurse Corps (AN) strategic goals and missions. The Warrior-patient and family-centered care models embrace evidence-based practice to achieve best patient outcomes. The WC IAT objectives were developed from the AN Campaign Plan* goals related to leader development, Warrior care, evidence-based management, and human capital. The WC IAT was tasked with developing care teams as a component of the patient advocacy element and peer feedback as a component of the enhanced communication element of the Patient CaringTouch System (PCTS) (Figure 1).

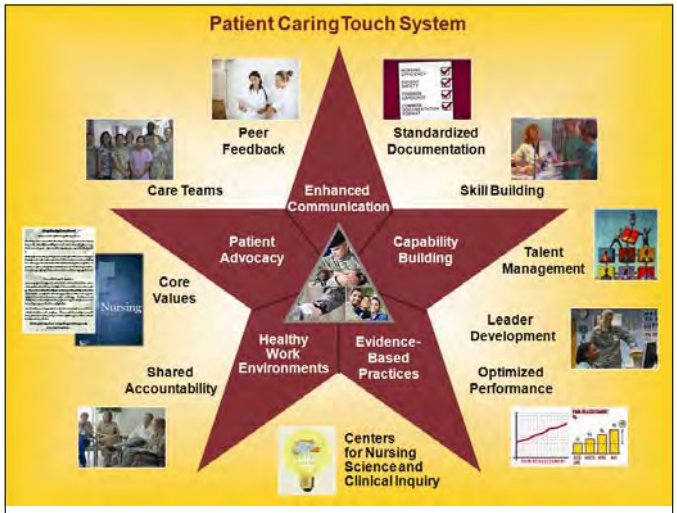


Figure 1. Care teams and peer feedback as elements of the Patient CaringTouch System.

The goals drive nursing as a key enabler for the Military Health System, and posture nursing to deliver patient-driven, family-centric, evidence-based nursing care while supporting the identification and development of full-spectrum leaders in professional nursing in the Army.

The PCTS is comprised of 5 core elements that, when optimized in clinical settings, improve patient outcomes, patient satisfaction, and nursing staff effectiveness. The patient advocacy element focuses on the best strategy to develop partnerships between the patient, family, nurse, provider, and other members of the healthcare team, and place the patient's experience of care and care outcomes as the team's priority. Patient advocacy provides the structure and culture for Army Nursing to dedicate our day-to-day work toward meeting the physical, emotional, and spiritual needs of our patients. Patient advocacy empowers nurses at all levels to become creative problem solvers and autonomous decision-makers within

*See "Building the Army Nursing Campaign Plan" on page 10.

nursing's scope of professional practice. Patient advocacy provides clear expectations for nursing by defining role responsibility, accountability, and authority in providing patient and family-centered care.

Enhanced communication provides the traditional conceptualization of the appropriate infrastructure to support patient safety and improve patient outcomes. The focus is shifted from the unit and department to the patient-centric system, requiring teamwork, technology, and the use of integrated networks to support the best care for patients. Coordination of care takes precedence in this type of integrated patient care delivery system because decisions made about care in any one dimension affect those in the others. Communication and collaboration are integral to effective delivery of care and patient outcomes. Effective communication is the cornerstone of positive caregiver interactions. Improvements in communication require not only a standard and effective method of communication but also cultivation of a healthy work environment where nurses and physicians function as a team with open and respectful communication.[1]

Care teams and peer feedback are key components of the patient advocacy and enhanced communication elements. Both are part of the overall PCTS framework for nursing care that is proactive in response to new and different care contingencies, as well as facilitating the decrease of practice variance and the annotation of nursing workload to workforce ratios. The literature supports and cites both of these components as best practice initiatives that have been identified in the transformation of nursing, the optimization of nursing care delivery systems, the integration of competent staff into teams, and the return of basics into nursing practice.[2]

Care Teams

The shortage of nurses in the United States forced nursing to develop and implement new strategies to effectively utilize staff and increase retention in order to provide excellence in quality and safe patient care. However, some of the strategies being employed are not necessarily new. A resurgence of team-nursing concepts has been increasing in many facilities across the country and abroad, to address quality of nursing care deficits, medication error rates, and nursing shortages.[3-6]

According to Fairbrother et al,[7] the Prince of Wales Hospital (Sydney, New South Wales, Australia) has implemented team nursing to "bring together disparately practicing individual nurses, with the goal of placing a net beneath the struggling novices." In a recent review of models of care and nurses' roles, Cioffi and Ferguson,[8] determined that more models involving team nursing are being used to organize nursing care delivery within the New South Wales health system. Kirkhart[9] describes "shared care" as a team approach for Mercy San Juan Hospital in Carmichael, California. She states that the "patient-focused care delivery system gives 'ownership' of responsibilities to the registered nurse for managing the care, rather than providing the care." Shared care includes the family and the patient in the planning process and emphasizes improved multidisciplinary collaboration. Kirkhart found significant "improvement in quality of nursing workplace, in terms of support availability for less experienced staff, and role clarity among the various categories of nursing staff." Cioffi and Ferguson[8] describe team-nursing "as patient oriented, facilitating accountability, encouraging collaboration, enabling better coverage of patients, and providing better access to more experienced nurses." Nursing leadership within the AMEDD recognized that commitment to implementing care teams promotes the establishment of a therapeutic relationship with the patient-family in a caring and healing environment. The care team is an evidence-based, patient-family–centered nursing care delivery system that is supported by theoretical frameworks of caring, novice-to-expert, and relationship-based care.[10-12]

In collaboration with nursing leaders in our clinical settings, the WC IAT developed the standard for care teams in PCTS. The care team consists of a lead registered nurse (RN) that directs nursing care, and a supporting nursing team that cares for a patient throughout the length of stay. The goals for the care team are to establish consistent care and regular communication between patients, families, and the nursing and multidisciplinary teams; to create a healthy work environment for all members of the nursing team under the direction of the RN; to support staff to work at the highest level of licensure, scope, and competency, providing care for a group of patients; and to leverage the capabilities of all nursing

team members to work at their highest level of licensure. The impact of establishing these highly functioning care teams is coordinated quality care for patients and their families, enhanced communication and efficiency of the nursing team, and optimized performance of all levels of nursing team members.

As outlined above, the PCTS care teams consist of a lead RN and a supporting nursing team that cares for a patient throughout the length of stay, improving consistency of care and communication. Care teams involve multiple members of the nursing team with different licensures and competencies (eg, RN, LPN, certified nurse anesthetist, medics) to optimize nursing care. The lead RN has full responsibility for the delivery of nursing care. The lead RN clearly defines the boundaries of the care team based on licensure, education, competency, scope and standards of practice, experience, patient acuities, and staffing patterns. Additionally, clinical nurse specialists, clinical nurse leaders, nurse case managers, nurse practitioners, and specialty nurses (eg, wound care or performance improvement nurses) may provide support and guidance in the implementation of the nursing care activities and evaluation of patient outcomes.

Care teams use best practice clinical practice guidelines from our quality and patient safety programs, as well as from the Army Nursing Practice Council, and use enhanced communication tools, including collaborative, multidisciplinary rounds; hourly nursing rounds; bedside huddles; safety huddles; intentional nursing huddles throughout the shift; patient whiteboards; and other established forms of communication.* The structure of the care team is based on some key standards:

- Charge nurses assign care teams to each patient to facilitate continuity of care and use the skills of each team member.
- Unit leadership (clinical nurse officers-in-charge and noncommissioned officers-in-charge) assumes responsibility for balancing skills and experience of nursing team members to ensure appropriate, quality care and mentorship.
- Teams identify and use communication tools to most effectively communicate patient needs (eg, whiteboards, huddles, hourly rounds).
- Teams use best practice clinical practice guidelines to deliver evidence-based care.

Although care team sizes and members will vary based on patient acuity, competency of staff, and number of available staff on a unit, the required standards and lead RN are vital to successful implementation (Figures 2-5).

IMPLICATIONS FOR NURSING PRACTICE: BENEFITS TO UNIT STAFF, FACILITY, AND OUR PATIENTS AND FAMILIES

Transforming nursing practice by optimizing nursing care delivery systems builds a healthcare team in whom a patient and family can trust. True collaboration, communication, and commitment to quality care benefit not only the patient-family, but also unit staff and the medical treatment facility itself. Benefits to the unit staff include enhanced communication with patient and family, enhanced communication between staff members, the encouragement of efficiency of care by allowing nurses to “divide and conquer” care of patients, and the enhancement of professional development of care team members. A care team that promotes engagement and relationship-building between the healthcare team and the patient creates an environment that clearly presents our patient and family as the priority. These types of attitudes add benefits to the facility by increasing patient and family satisfaction, increasing efficiency and effectiveness of staff, reducing risks of medical errors, promoting communication among the members of the nursing teams, and enhancing interdisciplinary collaboration and alignment between providers and nursing team. A care team that responds to the needs of the patient and family in a caring manner while demonstrating respect and understanding can transform the delivery of nursing care and patient outcomes. The benefits to patients and families include optimized quality of care at the bedside, a single “go to” person on the team for all needs, an increased awareness and involvement of the patient and family in the care received, enhanced relationships between patients and their nursing team, the encouragement of patients to express what the nursing team can do for them each day, and the demonstration that the team approach builds trust with patients and families.

*For example, the Situation-Background-Assessment-Recommendation (SBAR) tool and Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS) are communication tools to promote safety. Both SBAR and TeamSTEPPS assist in creating an environment that fosters improved communication and coordination of care.

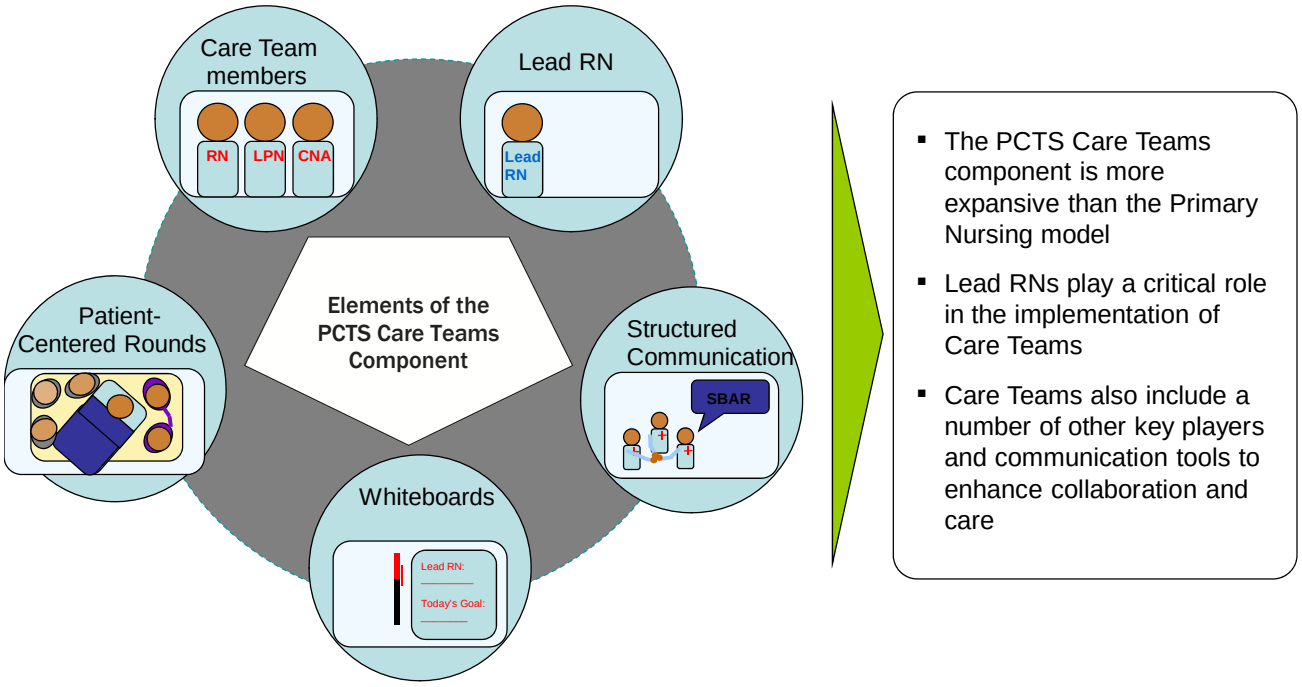


Figure 2. Structure of a Patient CaringTouch System (PCTS) care team.

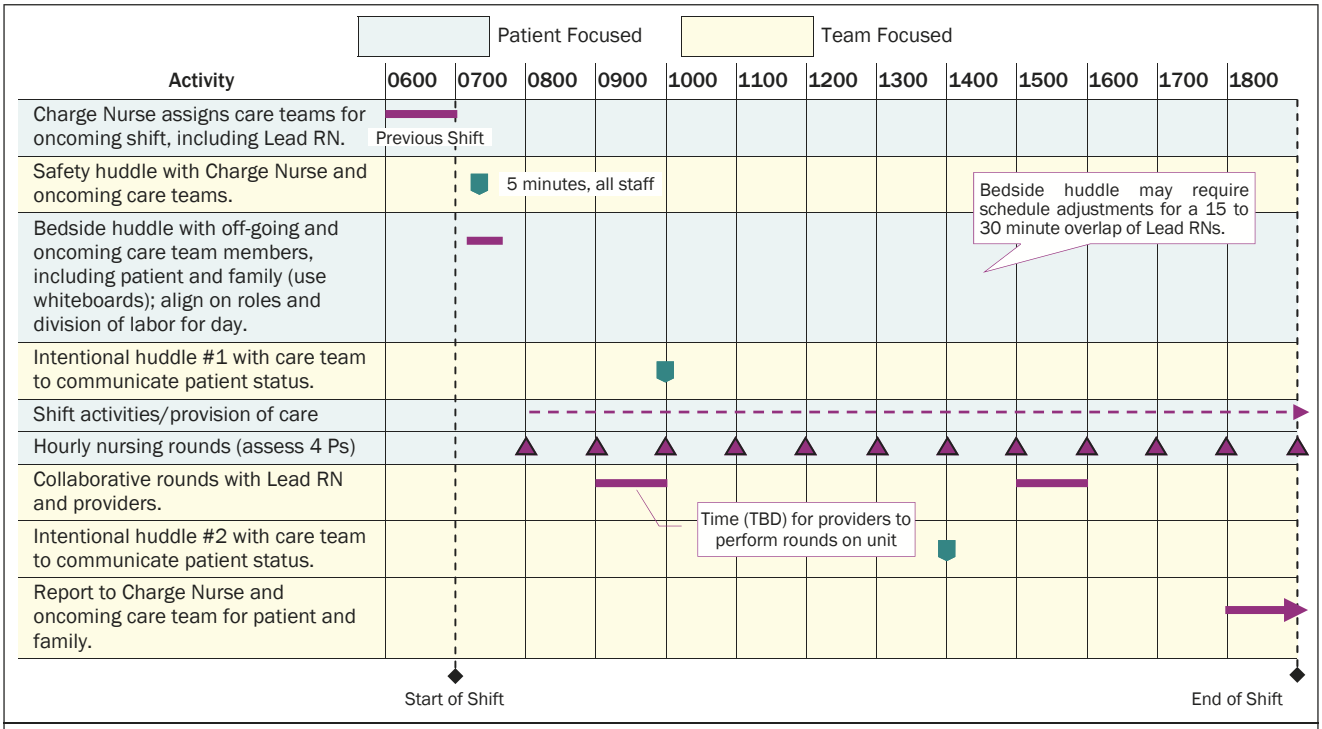


Figure 3. Care team activities during an average 12 hour shift (illustrative).

PEER FEEDBACK

Peer feedback is a necessary part of professional nursing practice, whether in a formal process or informally applied. The implications of peer feedback are so great that the American Nurses Association (ANA) included it in their magnet status criteria, and continue to endorse systematic application of peer feedback principles. The ANA defines peer review as "a collegial, systematic, and periodic process by which registered nurses are held accountable for practice that fosters the refinement of one's knowledge, skills and decision-making at all levels and in all areas of practice."[1] The ANA standards of professional nursing practice[1] detail 16 standards of practice and professional performance:

1. Assessment
2. Outcomes identification
3. Implementation
4. Ethics
5. Evidence-based practice and research
6. Quality of practice
7. Leadership
8. Professional practice evaluation
9. Resource utilization
10. Diagnosis
11. Planning
12. Evaluation
13. Education
14. Communication
15. Collaboration
16. Environmental health

Several facilities have experienced positive change from implementation of care teams

From...	...To
♦ Nursing staff assigned to patients on an ad hoc basis with little continuity of care	• Assignment of Lead RN and assigned care team for each patient to provide continuity of care, develop relationships, and ensure all nursing team members have adequate skills to meet patient/ family needs
♦ Variance in nursing care across care environments	• Nursing care provided in a consistent manner across care settings, including standards for practicing and communicating
♦ Unstructured communication between nursing staff and patients, resulting in lack of awareness regarding care	• Standards and tools from communication with patients and families, for example, patient whiteboards, bedside huddles, and hourly rounds
♦ Communication between staff members conducted through written notes and as-needed discussion	• Structured forums for in-person staff communication, both within nursing team and between nursing team and providers, for example, huddles, collaborative rounds with SBAR
♦ Care provision driven by available staff on unit versus optimizing for staff members' appropriate skills	• Efficient care provided by many members of the nursing team, each with his/her own direct and delegated roles or division of labor.

Figure 4. Benefits of care teams.

In general, nursing has applied the traditional formal peer review process associated with risk management to evaluate an individual's performance. In PCTS, nursing leadership determined that in order to promote a professional, collegial practice, nurses must have the opportunity with peers to reflect on their own practice and the practice of their colleagues. Therefore, the PCTS defines and endorses standards for peer feedback. For purpose of consistency with our definition, peer feedback will be used to describe peer review in the cited literature. Peer feedback is often met with increased scrutiny by the staff, notably due to the negative connation. However, not all peer feedback is punitive in nature and research has shown many benefits to establishing and sustaining a work environment that supports positive peer feedback. According to Boehm and Bonnel,[13] peer feedback allows the individual to use feedback to enhance their own professional practice. Peer feedback also provides the opportunity to "promote professional leadership and autonomy"[14] and to facilitate the establishment of a safety culture within their organization.[15]

WHAT IS ARMY NURSING PEER FEEDBACK?

Peer feedback is an objective and confidential process that allows all licensed members of the Army Nursing team—registered nurses and licensed practical/ vocational nurses—to reflect on their practice and develop professionally through feedback from colleagues on strengths and opportunities for growth. It is an education and development tool that enables continuous learning and promotes patient safety and best practices. Peer feedback is an effective way to identify areas for improvement and of praise, and maintain professional control over practice, thereby giving Army Nursing a way to measure professional accountability and responsibility for the delivery of quality nursing care consistent with the ANA standards of practice and professional performance.[1] Peer feedback is derived from the competencies associated with professional practice evaluation. Standards for application of peer feedback in the PCTS serve to decrease variance in the measurement of care delivery across all care environments. Anonymous nurse reviews are conducted at least semiannually using the ANA publication, *Nursing: Scope and Standards of Practice*[1] as the guiding reference; Clinical

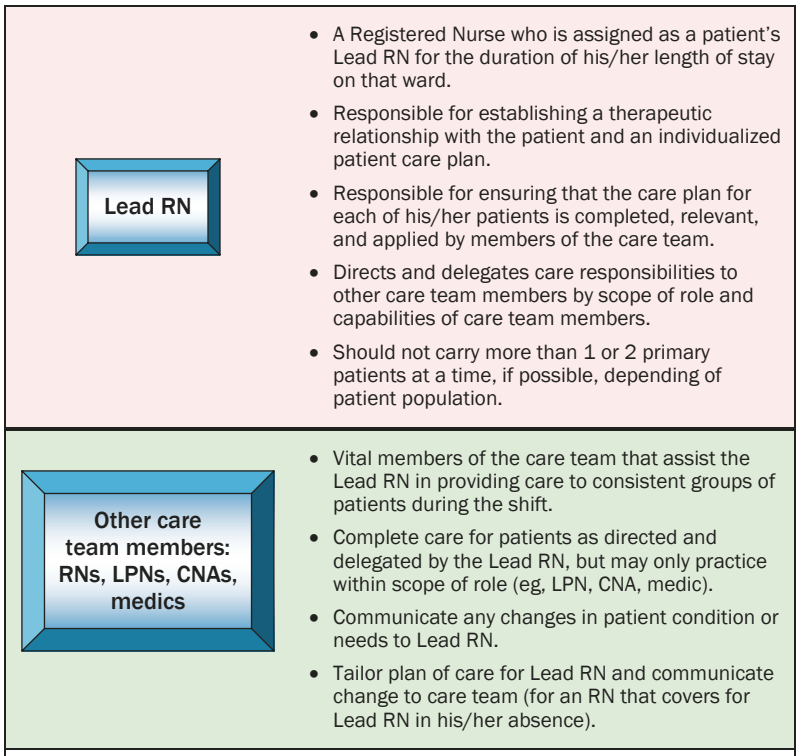


Figure 5. Care team role responsibilities.

nurse officers-in-charge (CNOICs) assign 3 or more assessors to provide feedback on each recipient. These assessors are chosen based on the frequency of exposure to the recipient and the same licensure as the recipient (eg, RN to RN, LPN to LPN). The CNOIC collects feedback from assessors and shares with recipients in a timely manner that ensures the anonymity of the assessors. The CNOIC will also support the recipients as they reflect on their feedback and develop goals for their practice. Feedback is used primarily as a tool for self-reflection and, if validated, will help inform performance evaluations. Officer evaluation reports/noncommissioned officer evaluation reports and civilian performance plans reflect participation in the peer feedback process.

The impact of peer feedback is the enhancement of nurses' abilities to reflect on their own practice and the practice of their colleagues to improve patient care. Furthermore, peer feedback is designed to encourage regular reflection on nursing practice, establish a consistent and objective mechanism for recognizing strengths and areas for growth among peers, and to create a work environment that fosters honest communication between all licensed members of the nursing team. Successful implementation of peer feedback necessitates leadership commitment, resources, and implementation of required standards at all levels of the organization.

Using a standardized tool such as those shown in Figures 6 and 7, peer feedback allows individuals to evaluate their peers in a consistent and objective manner. The feedback is valuable not only to the unit manager or supervisor, but also to the evaluated individual. The information can be used to facilitate future growth for the nurse, by addressing areas where improvement is needed as well as identify their strengths. However, there are challenges with using a peer review tool: "the staff believes they are less able to assess the patient care questions because they do not frequently observe the peer's care processes."[13] However, the peer feedback process includes regular checks in which members of the nursing team provide anonymous feedback to select peers with whom they work. A consistent peer feedback tool provides a yardstick against which to measure professional growth and to plan for development.

Implications for Nursing Practice: Benefits to Unit, Facility, Our Patients, and Families

For over a decade, many healthcare organizations have incorporated nursing peer feedback into their formal evaluation cycles and clinical advancement programs. This feedback is valued for its positive impact on nurses' professional development and the quality of patient care. Evidence suggests that peer feedback results in increased nurse accountability, staff satisfaction and self-awareness, as well as improvement in the delivery of patient care.[16-21] Fellow nursing peers have a true understanding of the reality of the nursing care delivery process at the bedside. Peer feedback compels nurses to examine clinical and interpersonal practice areas in which they may improve; it is also often intended to enhance professional development, autonomy, and decision-making. Rather than reacting to clinical issues generated by nursing practices, efforts to strengthen positive relationships within the nursing team will have added benefit to the patient and family, unit, and facility.

Peer Feedback Tool

Assessor (name & title) _____ (RN/LPN)

Recipient (name & title) _____ (RN/LPN)

Date of feedback completion _____

Date of developmental discussion _____

Instructions: Please complete the following assessment for your assigned "Peer Feedback Recipient" and return to the CNOIC by stated date.

Quarter 1 Peer Feedback

Question	ANA Standard	My peer...	Very Rarely	Rarely	Some-times	Often	Very Often	Cannot Assess	Comments
1	Assessment	Elicit the healthcare consumer's values, preferences, expressed needs, and knowledge of the healthcare situation.							
2	Diagnosis	Identifies actual or potential risks to the healthcare consumer's health and safety for barriers to health, which may include but are not limited to interpersonal, systematic, or environmental circumstances.							
3	Ethics	Delivers care in a manner that preserves and protects healthcare consumer autonomy, dignity, rights, values, and beliefs.							
4	Education	Seeks experiences that reflect current practice to maintain knowledge, skills, abilities, and judgment in critical practice or role performance.							
5	Do you have any other feedback you wish to provide to this colleague at this time to help them enhance their daily practice?								
6	What Peer Feedback questions were most relevant/useful for you as you assessed the Recipient?								
7	What Peer Feedback questions were confusing or least relevant as you assessed the Recipient?								
8	Other suggestions for questions.								

Figure 6. Example of a hard-copy peer feedback tool.

Peer feedback provides numerous benefits to the unit staff. These benefits include formalized, regular, supportive communication between nursing managers and their nursing staff; enhanced communication among nursing peers; encouraged reflection on nursing practice by reminding nursing staff of scope and standards of practice on a regular basis; and promotion of professional competence of nurses in the unit to enhance quality care. To be an effective team, our obligation to quality care extends beyond our routine interactions among nurses. Professional obligation has added value to the facility, patient, and family. Benefits to facility include increased awareness of and attention to nursing competence, promotion of nursing ownership and autonomy, facilitation of communication between staff and promotion of teamwork, and improved quality of nursing care. The benefits to our patients and families include improved quality of care provided by the care team, and increased accountability and responsibility of the nursing staff. Peer feedback will have a significant impact at the strategic level of the Army Nurse Corps. Issues identified at the unit level can be elevated to higher levels (hospital, region, corps) for further evaluation and integration.

Peer feedback will encourage an effective nursing practice by formalizing regular, supportive communication between nursing managers and their nursing staff. This includes regular discussions between nursing leadership and their staff to set developmental goals and to encourage both the unit manager and the senior nursing leadership to recognize high performers. By formalizing the process several

times a year, peer feedback encourages reflection on nursing practice by reminding nursing staff of scope and standards of practice on a regular basis, while it supports self-awareness and reflection through developmental discussions. It also enhances quality of care by promoting the professional competence of nurses and the ownership of nursing practice.

The Way Ahead

The approach to the delivery of nursing care is a partnership employing a shared and coordinated effort among members of the care team. The care team promotes communication, cooperation, commitment, and competence among the members of the team with the goal of delivering quality nursing care, which leads to positive patient care outcomes. Care teams and peer feedback are essential components of nursing practice that refocus nursing back-to-basics as we fully implement and sustain the 5 elements of the Patient CaringTouch System.

References

1. *Nursing: Scope and Standards of Practice*. Silver Spring, MD: American Nurses Association; 2010.
2. Health Workforce Solutions LLC. Innovative Care Models. Available at: http://www.innovativecare models.com. Accessed July 27, 2011.
3. Porter-O'Grady T, Alexander DR, Minkara N. Constructing a team model, creating a foundation for evidence-based team. *Nurs Adm Q*. 2006;30(3):211-220.
4. Stichler JF. Staff nurse engagement in health facility design. *J Nurs Adm*. 2008;38(7/8):315-318.
5. Tiedeman ME, Lookinland S. Traditional models of care delivery. *J Nurs Adm*. 2004;34(6):291-297.
6. Wolf GA, Greehouse, PK. Blueprint for design, creating models that direct change. *J Nurs Adm*. 2007;37(9):381-387.
7. Fairbrother G, Jones A, Rivas K. Changing model of nursing care from individual patient allocation to team nursing in the acute inpatient environment. *Contemp Nurse*. 2010;35(2):202-220.
8. Cioffi J, Ferguson L. Team nursing in acute care settings: nurses' experiences. *Contemp Nurse*. 2009;33(1):2-12.
9. Kirkhart D. Shared care: improving health care, reducing costs. *Nurs Manage*. 1995;26(6):26-32.
10. Watson J. The theory of human caring: retrospective and prospective. *Nurs Sci Q*. 1997;10:49-52.
11. Benner P. *From Novice to Expert: Excellence and Power in Clinical Nursing*. Upper Saddle River, NJ: Prentice Hall, Inc; 2001.
12. Koloroutis M, Manthey M, Felgen J, Person C, Kinnaird L, Wright D. *Relationship-Based Care: A Model for Transforming Practice*. Minneapolis, MN: Creative Health Care Management, Inc; 2004.

Figure 7. An example of a web-based feedback tool.

13. Boehm H, Bonnel W. The use of peer review in nursing education and clinical practice. *J Nurses Staff Dev*. 2010;26(3):108-115.

14. Hotko B, Van Dyke D. Peer Review: Strengthening Leadership Skills. *Nurs Manage*. 1998;29(4):41,44.

15. Diaz L. Nursing peer review: developing a framework for patient safety. *J Nurs Adm*. 2008;38 (11): 475-479.

16. Fujita L, Harris M, Johnson K. Nursing peer review: integrating a model in a shared governance environment. *J Nurs Adm*. 2009;39(12):524-530.

17. Hogston R. Evaluating quality nursing care through peer review and reflection; the findings of a qualitative study. *Int J Nurs Stud*. 1995;32(2):162-172.

18. Gagliardi AR, Perrier L, Webster F, et al. Exploring mentorship as a strategy to build capacity for knowledge translation research and practice: protocol for a qualitative study. *Implement Sci* [serial online]. 2009. Available at: http://www.implementationscience.com/content/4/1/55. Accessed February 12, 2011.

19. Miller WR, Hurley SJ, Wharton E. External peer review of skilled nursing care in Minnesota. *Am J Public Health*. 1976;66(3):278-283.

20. Roper K. The effect of peer review on professionalism, autonomy and accountability. *J Nurs Staff Dev*. 1997;13(4):198-206.

21. Schultz K, Latif D. The planning and implementation of a faculty peer review teaching project. *Am J Pharm Educ*. 2006;70(2):1-6.

AUTHORS

COL Prue-Owens is Deputy Commander for Health Services/Nursing, Raymond W. Bliss Army Health Center, Fort Huachuca, Arizona.

LTC Watkins is Chief Medical Information Officer, Pacific Regional Medical Command and Tripler Army Medical Center, Honolulu, Hawaii.

When this article was written, COL Wolgast (Ret) was the Army Medical Command Chief Nurse Executive and Functional Proponent, Fort Sam Houston, Texas.

Measuring Nursing Essential Contributions to Quality Patient Care Outcomes

COL (Ret) Kelly A. Wolgast, AN, USA
LTC Katherine Taylor, AN, USA
LTC Dawn Garcia, AN, USA
LTC Miko Watkins, AN, USA

Abstract

Workload Management System for Nursing (WMSN) is a core Army Medical Department business system that has provided near real-time, comprehensive nursing workload and manpower data for decision making at all levels for over 25 years. The Army Manpower Requirements and Documentation Agency populates data from WMSN into the Manpower Staffing Standards System (Inpatient module within Automated Staffing Assessment Model). The current system, Workload Management System for Nursing Internet (WMSNi), is an interim solution that requires additional functionalities for modernization and integration at the enterprise level. The expanding missions and approved requirements for WMSNi support strategic initiatives on the Army Medical Command balanced scorecard and require continued sustainment for multiple personnel and manpower business processes for both inpatient and outpatient nursing care. This system is currently being leveraged by the TRICARE Management Activity as an interim multiservice solution, and is being used at 24 Army medical treatment facilities. The evidenced-based information provided to Army decision makers through the methods used in the WMSNi will be essential across the Army Medical Command throughout the system's life cycle.

Introduction

Ensuring available personnel resources for quality patient care is a major responsibility of healthcare leaders in all facets of healthcare. In order to appropriately manage these resources, leaders require accurate, timely information, especially in today's world where budgeting for healthcare is on the forefront of our minds. Patient classification systems assist nurse leaders in ensuring that they have the acuity based tools in place to match patient care delivery to demand management. This process and system provides leaders with valid tools that assist with improvement of patient outcomes, proper staffing, budgeting and cost containment and nurse retention.

Current Army Nursing Workload Practices

Army healthcare leaders face resource constraints similar to the civilian healthcare environment. Current issues facing the Army Medical Department (AMEDD) include ensuring adequate nurse staffing to patients within the constraints of a deployed workforce, an aging population, a nursing shortage, and rising healthcare costs. Efforts are underway to improve our leadership's ability to provide valid, reliable, quality data for the practice of nursing while balancing efficiency, all the while delivering quality patient care. Ongoing discussions regarding the use of nurse-to-patient ratios to assess the adequacy of the nursing support for the care of the patients are among many of the issues being researched. Systems such as Workload Management System for Nursing Internet (WMSNi) will be critical to the Army as a development strategy to determine more accurate measures. Among those measures is the ability to account for the various factors that contribute to resourcing, such as patient acuity and complexity, workload, and staffing mix. In particular, the visibility of workload to key leaders and front line clinicians will influence workload distribution, skill mix decisions, patient assignment, and staffing flexibility.

Historical Background

The original patient classification study was conducted in 1955 by Ester Claussen[1] at the Walter Reed Army Medical Center and resulted in a "Nine Category Scale of Patient Needs." Subsequently, the Army made several quantitative adaptations and prototype changes to the model leading up to 1985, when a joint effort of the US Army Nurse Corps and the US Navy Nurse Corps was established. Through this effort, the Workload Management System for Nursing (WMSN) was

developed to establish a patient classification system that would capture nursing workload based on patient acuity and provide guidelines for effective and efficient allocation and utilization of nursing personnel. In December 1986, the Army Manpower Requirements and Documentation Agency approved the incorporation of the WMSN into the Manpower Staffing Standards System, now known as the Automated Staffing Assessment Model Inpatient module. To populate the model, information is generated by WMSN and used to determine manpower requirements for inpatient nursing units Army-wide.[2,3]

Revalidation Process

Since its inception, WMSN has been used to measure patient acuity and the complexity of care, and to establish manpower requirements for inpatient nursing units.[2] However, concerns arose that WMSN had lost its validity, since the critical indicators no longer reflected current inpatient work practices. With changes in inpatient work practices, technological advances, regulatory requirements, and the need to capture all sources of workload, the nursing care hours associated with each critical indicator required updating and revalidation. An Army team made up of a nurse researcher, informatics nurse-to-nurse methods analysts, and additional staff from each of the locations visited, began the process of revalidating each of the critical indicators and ensuring compliance with current practice standards. This initial phase involved a frequency analysis to look at all 99 critical indicators at a total of 26 medical treatment facilities (MTFs). The information collected led to current clinical model revisions, resulting in consolidation of some indicators and removal of others.

The next phase included a series of time and motion studies to establish current minimal essential mean times for each direct nursing care activity. Timed observations were completed on 60 direct care activities generating 3,241 time measurements. These data were analyzed to assess the overall mean times for each of the activities and processes. The resulting patient classification system measures the direct nursing care activities and combines it with the appropriate indirect care activities to determine the best mix and skill level of care providers for the critical care, medical/surgical, obstetric, psychiatric, neonatal, and pediatric clinical services. Figure 1 illustrates changes in direct care times as a result of the studies.

WMSNi: A Fourth Generation Patient Classification System

Patient classification systems (PCSs) were originally adapted from industrial time and motion models. Prior to the 1980s, first generation systems were based on manual calculations originating from historic performance ratios used to estimate staffing needs and budgets. Second generation systems were designed to focus on patient care as accrediting organizations such as the Joint Commission mandated their use. By the 1990s, third generation patient classification systems were critical due to shorter hospital stays and less stationary staff. Fourth generation systems now focus on prospective modeling, evolving to provide real-time matching of caregiver skill profiles to meet staffing needs for the current and upcoming shifts.[4]

The 2 general types of systems commonly used are the summative task type and the critical incident or criterion type PCS. Summative tasks PCSs usually appear comprehensive because they list major tasks, and tend to be easier to design and code in order to interface with automated documentation systems. However, criterion PCSs can be more easily adapted to the organization.[4] Despite the modality selected, benefits include data-driven decision-making, standardized clinical documentation which supports evidence-based medicine, and easier integration into staffing and scheduling systems.[5] Clinical officers-in-charge can then compare scheduled staff to required staff specified by patient classification system, and then reallocate staff or call in additional staff to accommodate over- or understaffed units, ensuring appropriate mix of skill levels. Ultimately, patient classification systems provide improved staffing accuracy, streamlined workflow, and enhanced patient outcomes.

The WMSNi is a summative task PCS that expresses patient care requirements as the sum of the frequency of tasks. The WMSN-A Refresh project was begun in April 2009 and reached full operating capacity in July 2010. Currently it is used by over 6,500 caregivers on a daily basis. Figure 2 presents its current operational view. It is an interim solution to ensure the maintenance of the basic functionalities that are needed for enterprise level capability.

The “refresh” has given the application a modern-day format as well as many new and convenient features. Previously calculated through a subsystem, workload

management for postanesthesia care and labor and delivery units are now fully integrated into the WMSNi, as illustrated in Figure 3. Formerly a decentralized managed system at 26 MTFs, WMSNi is now a centralized, web-based application with a contemporary user interface. Data can be entered through easy-to-use features, adding and retrieving information are as simple as clicking a button, and information entered is immediately employable.

Staff Feedback

To assess the users' perceptions of the legacy WMSN and WMSNi respectively, an electronic survey was created using the AMEDD Center and School Survey Application Tool. The survey was administered at preimplementation, and approximately 60 days post-implementation. The preimplementation survey was completed by 105 participants, while 47 participants completed the postimplementation survey.

As shown in the Table, 8 of the 11 questions solicited opinions of the systems using a 5-point Likert rating scale. Three questions were strictly demographic in nature, addressing the length of nursing experience, where they worked and whether they were military, GS civilian, or contract staff.

Preimplementation survey – Forty-eight nurses (46%) had more than 6 years of nursing experience in one of the various nursing specialties, the distribution of which is shown in Figure 4.

Significantly, 70 participants (66%) strongly agreed or agreed that the legacy WMSN was not optimal nor did it meet the their needs. Forty-five participants (43%) rated WMSN as frustrating and considered it not an effective way to document the inpatient clinical workload data. Figure 5 presents the survey results.

Postimplementation survey – The same survey was given as the postimplementation survey. Twenty

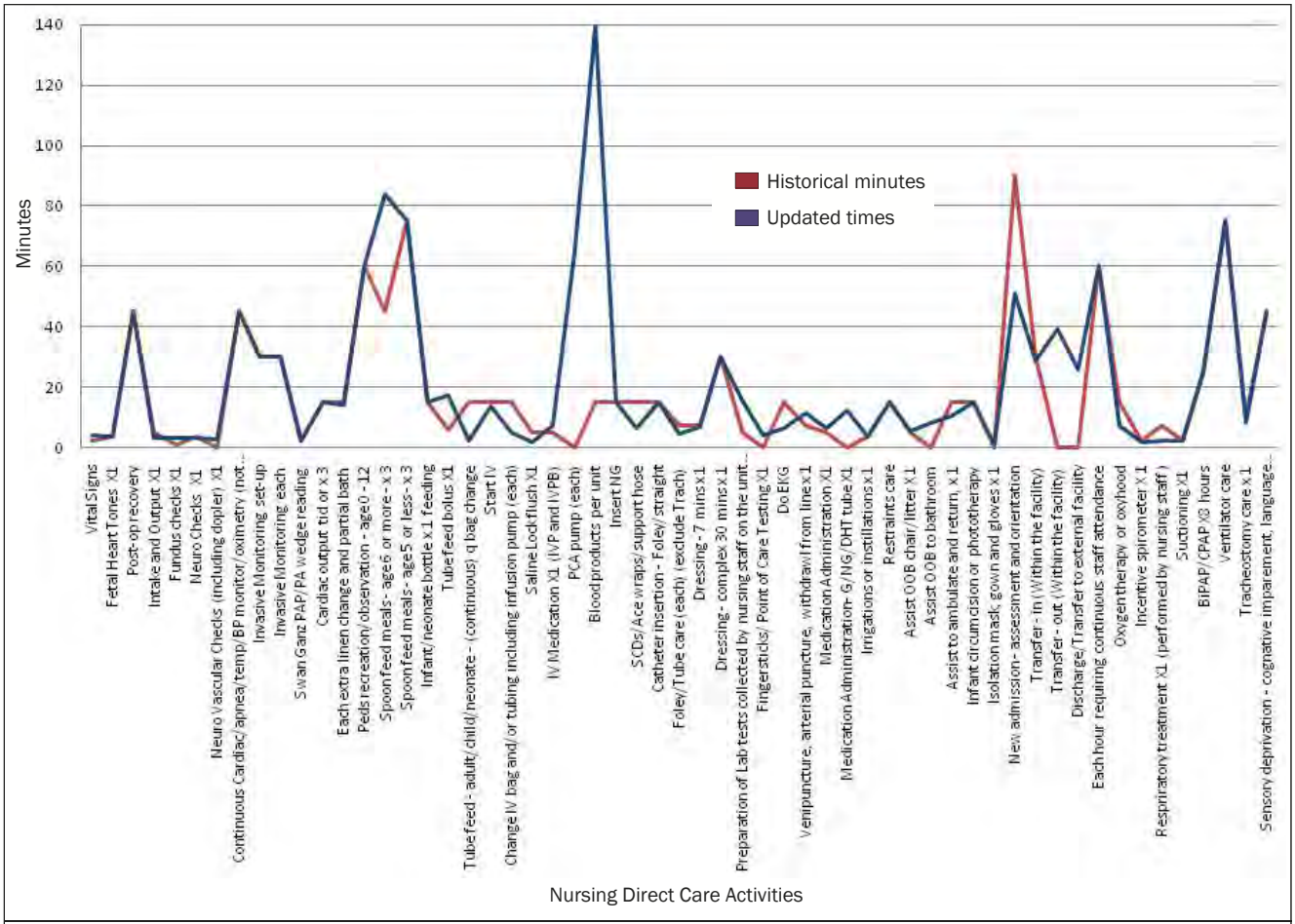


Figure 1. Changes in direct care times determined by observations collecting 3,241 time measurements.

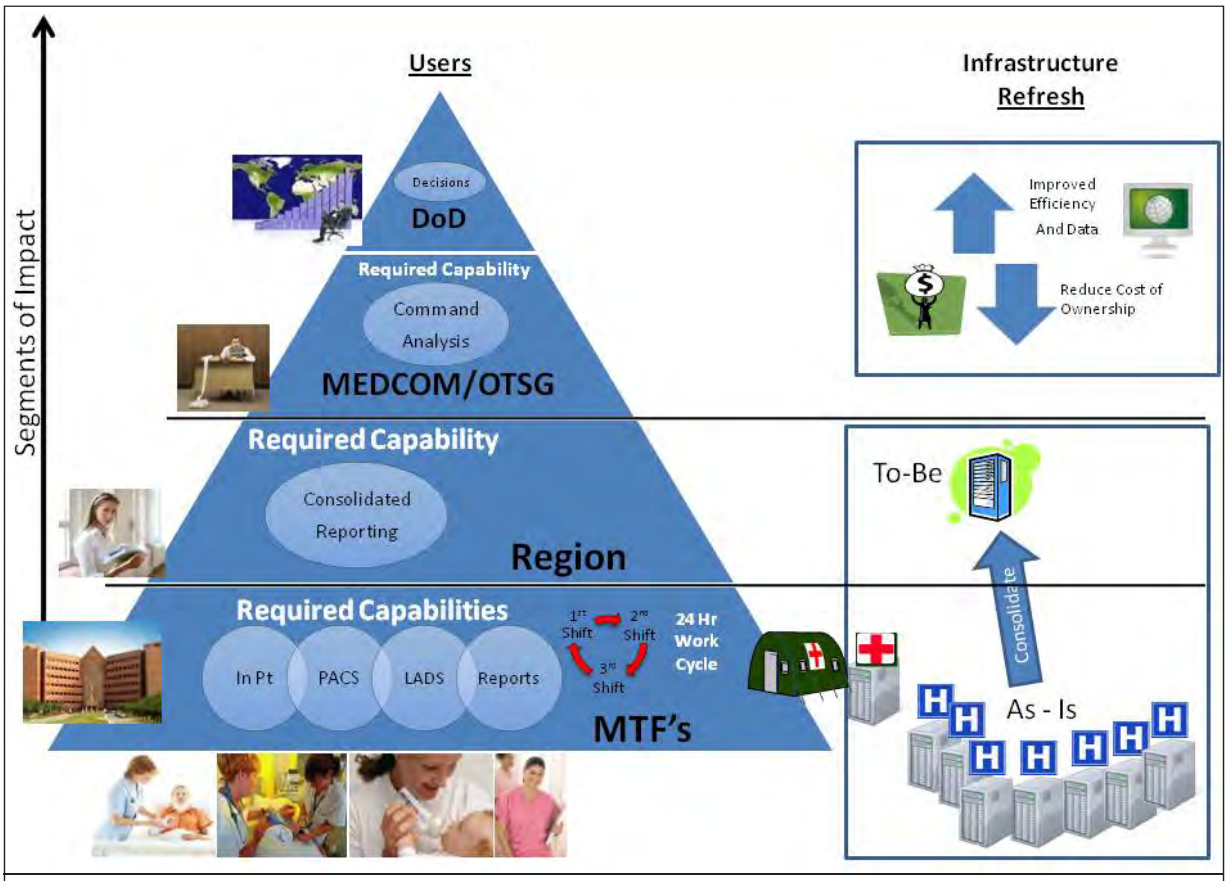


Figure 2. The current operational view of the Workload Management System for Nursing.

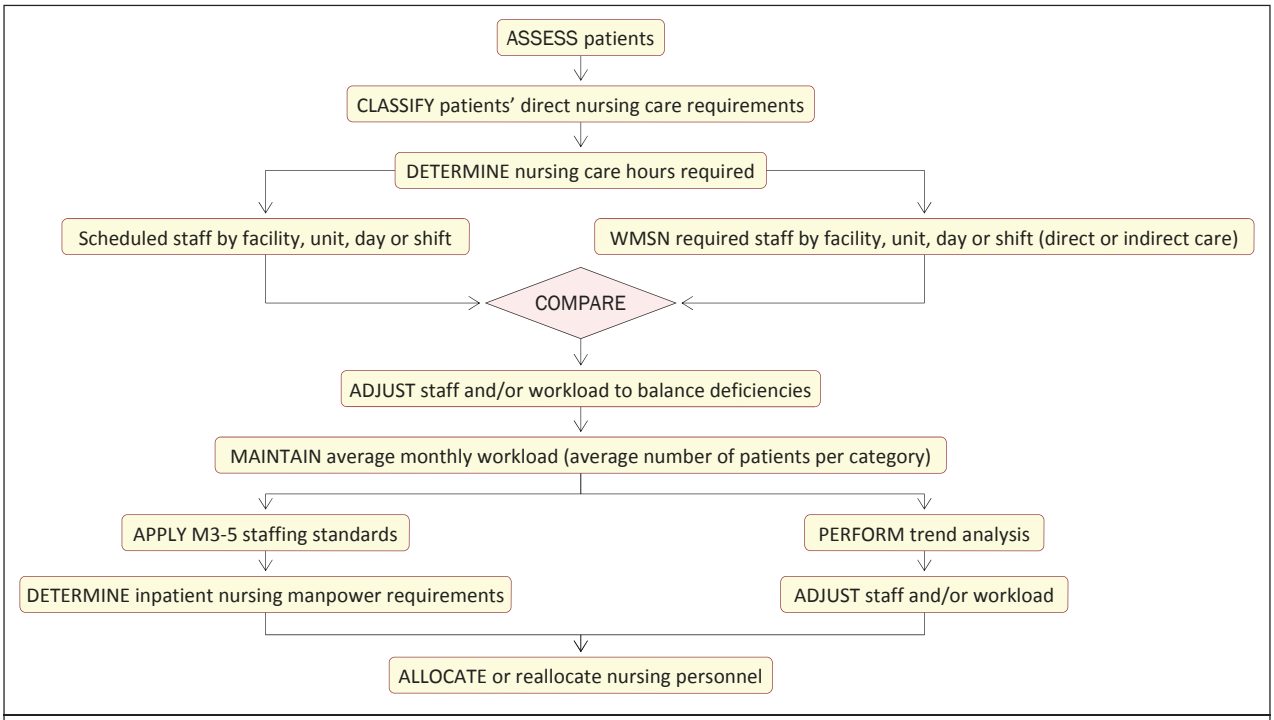


Figure 3. The business workflow within the WMSNi system.

participants (43%) strongly agreed or agreed that the WMSNi was much easier to use and that it met their needs. Twenty-eight participants (60%) strongly agreed or agreed that WMSNi provides an effective way to document the inpatient clinical workload data. Figure 6 presents the survey results.

The surveys also helped to identify any high level user requirements that were not previously identified for future enhancements to WMSNi. For example, the responses indicated that Behavioral Health's workload was not fully identified. Other survey participants commented on the technical issues, frequent downtimes, speed of application, and the potential that WMSNi could provide them, especially with staff scheduling and 24-hour report modules.

Questions used in the pre- and postimplementation survey of users' opinions of the WMSN and WMSNi systems.

1. How many years of nursing experience do you have?
2. Where do you work (area of specialty)?
3. Are you military, GS civilian, or contract staff?

Indicate your opinion of each of the following statements on a five point (Likert) scale: 1=strongly agree, 2=agree, 3=neither agree nor disagree, 4=disagree, 5=strongly disagree

4. Overall the system is wonderful and meets all of my needs.
5. Overall the legacy system is frustrating and does not meet my needs.
6. The WMSN system is easy to use.
7. It was difficult to learn how to operate the WMSN system.
8. The system allows me to perform required tasks in a straightforward manner.
9. The system provides an effective way to document the inpatient clinical workload data.
10. The system provides accurate patient acuity data.
11. The system has reporting options available to me.

Workload and Staffing

As requests for scheduling and 24-hour report capabilities increase, Army leaders recognize the critical requirement to more objectively make assignments for increased staffing equity and patient safety. Recent studies indicate that more efficient use of staff was associated with lower hospital-related mortality, failure to rescue, and other patient outcomes.[6] Balancing clinical workload with nurse staffing was also associated with better outcomes in intensive care units and among surgical patients. Several studies also found a significant relationship between lower nurse staffing levels and higher rates of pneumonia. For example, a multisite study in California found that an increase of one hour worked by RNs per patient day correlated with an 8.9% decrease in the odds of pneumonia among surgical patients.[6] Another study found a significant relationship between full-time-equivalent RNs per adjusted inpatient day and rate of pneumonia—the rate of pneumonia was higher with fewer nurses.[6] However, other studies have not confirmed these findings. For example, there is conflicting evidence regarding the impact of nurse staffing levels on pneumonia.[6,7] As workload is affected by more than just staffing levels, a deeper understanding of nursing workload is required to better assess the impact of workload on patient outcomes.

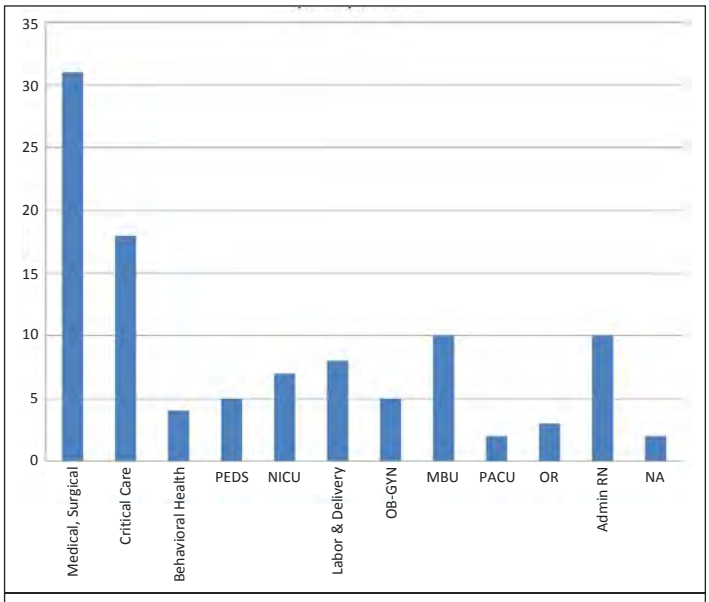


Figure 4. Distribution of nursing specialties represented by participants in the preimplementation WMNSi survey (N=105).

Developing a schedule that satisfies staffing needs and individual needs of nurses, while at the same time satisfying workload and training requirements is no easy task without a standardized and centrally managed scheduling system that is adaptable to the organization's needs. In planning for the future, Army leaders must consider fulfilling staffing and workload requirements a priority. Communication must be fostered between all levels of supervisors and staff concerning scheduling in order to foster a positive work environment, avoid burnout, increase morale, lower absenteeism, and lessen turnover.

The management of nursing contract dollars is also varied across the Army Medical Command. Several

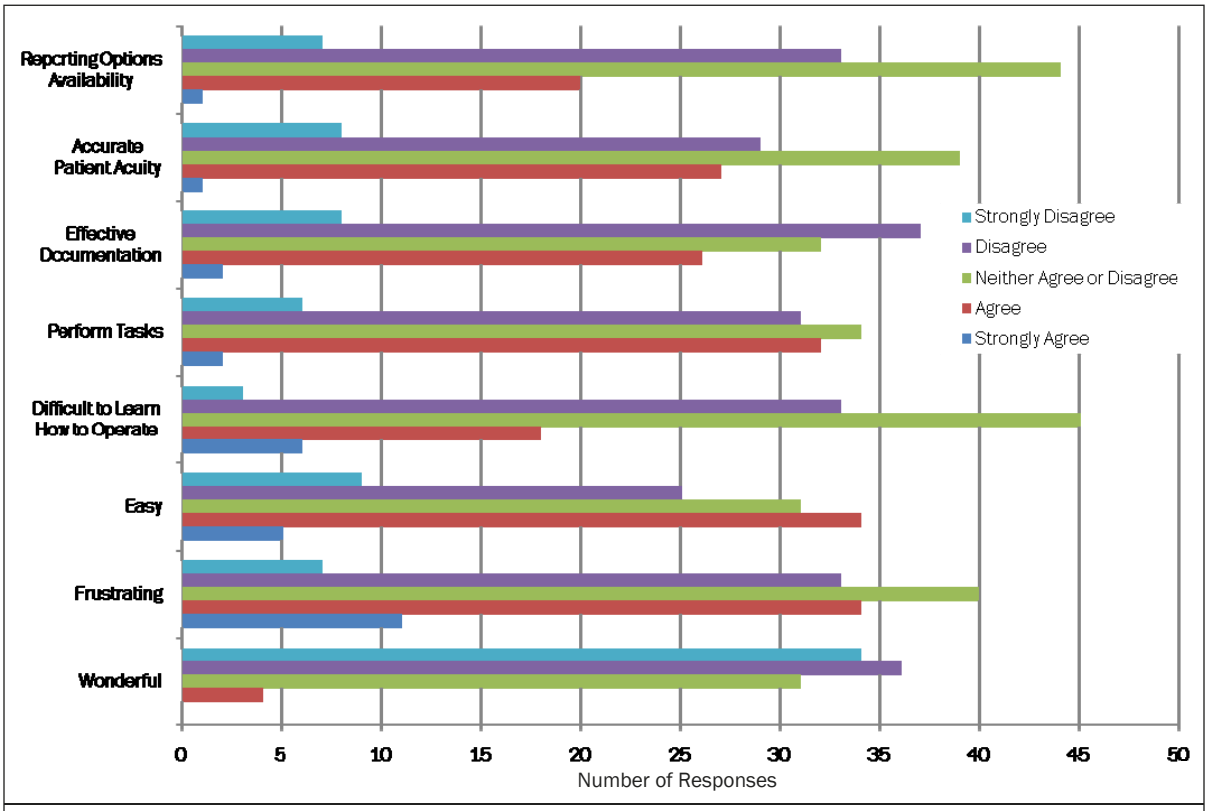


Figure 5. Distribution of responses from participants in the WMNSi preimplementation survey (N=105).

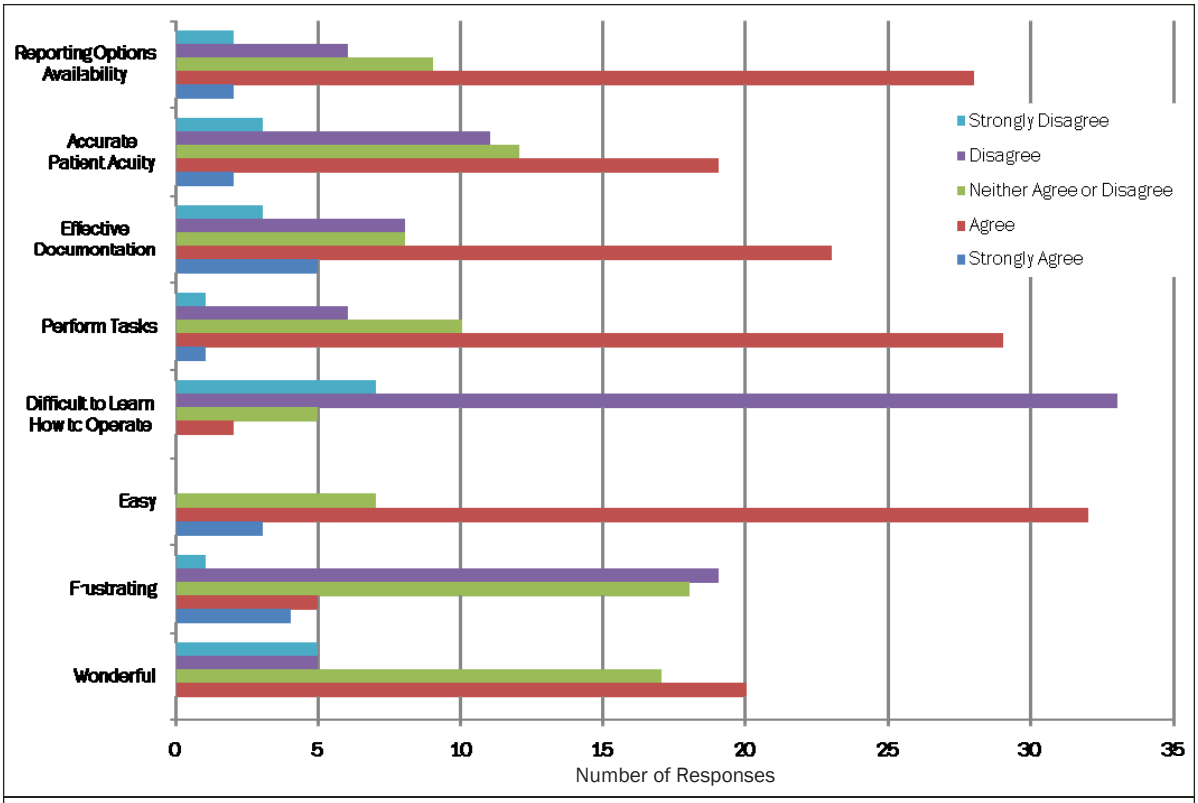


Figure 6. Distribution of responses from participants in the WMNSi postimplementation survey (N=47).

tools, including MS Excel, are used to understand and manage the large amount of personnel services dollars used. Based on current systems, it is challenging to obtain a detailed view of contract utilization. Capabilities must be identified to ensure more efficient utilization. There are clear opportunities to better manage contract dollars and improve understanding of where the dollars are spent and where we can maximize our potential cost savings.

How the Patient Classification System Supports Decision Making

Evidence-based practice uses the best clinical knowledge to determine interventions and clinical actions developed through the rigor of sound research to assure the best possible clinical outcomes for patients. Similar expectations of our administrative decision making are necessary. Multimillion dollar decisions are made every day in our organizations. Is evidence beyond the anecdotal experience of the leaders introduced into these decisions? Do we apply the same standard to both clinical and administrative decision making, as well as to address adverse outcomes from poor decision making? Developing staffing plans, adhering to standards, and evaluating the effectiveness of the staff are challenges facing leaders every day.

Because the nursing workforce accounts for the largest cost of care in every hospital, achieving and sustaining efficiency is critical to managing the delivery of high quality patient care. All of this is dependent on timely, accurate data. In the past, getting timely access to the data was challenging. Often a period of 45 to 90 days was necessary to see any data from WMSN. The data at the medical treatment facility was maintained in a system that was difficult to access, or only on paper. This made the data difficult to synthesize and analyze. With the implementation of WMSNi, the application provides decision makers with real-time, multidimensional reporting analysis capabilities. Several reporting features allow users to analyze trends, then devise and implement staffing strategies more quickly than ever before. Figure 7 illustrates one of many strategic reports available within WMSNi to assist leaders with more visibility into their operations.

Moreover, the Army Nurse Corps has developed a standardized nursing practice model for inpatient and outpatient settings which incorporates nationally recognized standards from professional nursing organizations. This has led to the need to change the skill mix for staffing.

Effective clinical workload management for inpatient nursing requires continual review of past work accomplished to evaluate the performance, effectiveness, and efficiency of the organization, and identify improvements to work processes. Projected clinical workload data is currently being provided using WMSNi to determine the manpower and financial requirements at all medical treatment facilities. Clinical work must be validated in order to be resourced for appropriate support for all Warfighters and their families.

Conclusion

The WMSNi is a core AMEDD business system that provides real-time, comprehensive nursing workload and manpower data for decision making at all levels. The WMSNi's expanding missions and approved requirements support strategic initiatives for the Army Medical Command balanced scorecard (defined on page 25), and multiple personnel and manpower business processes. In the future should be the creation of a validated predictive model leveraging WMSNi that is intuitive to users, with strong statistics and clinical analytics, which uses other objective patient data, such as surgery day and type, diagnosis related group, length of stay, etc. Future projects will include consolidation of inpatient and outpatient workload data in a centralized location. The system would enable standardized business practices through automation and seamless report delivery with multiple interfaces, including census and workload information, with acuity, complexity, and staffing recommendations. The desired results include a self-schedule module to communicate with the Defense Medical Human Resources System Internet and WMSNi. Benefits will include improved morale of staff members, decreased turnover and absenteeism, improved ability to manage contract dollars, and improved dispersion of clinical staff to ensure safe staffing based on workload expertise and skill mix. Upgrading WMSNi is essential in order to reflect current clinical practice and streamline operations, reduce contract labor expense for interim nursing staff, lessen staff overtime, decrease patient length of stays, and minimize staffing turnover. The proposed solution will provide well-organized and accurate patient classification, improved patient outcomes, more precise and effective forecasting, and enhanced analysis of patient care requirements.

REFERENCES

1. Claussen E. Categorization of patients according to nursing care needs. *Mil Med*. 1955;116,(3):209-214.
2. *Field Manual 8-5-01: Workload Management System for Nursing*. Washington, DC: US Dept of the Army; 1991 [cancelled, not in effect].
3. *Army Regulation 570-4*: *Manpower Management*. Washington, DC: US Dept of the Army; February 8, 2006.
4. Harper K, McCully C. Acuity systems dialogue and patient classification system essentials. *Nurs Adm Q*. 2007;31 (4):284-299.
5. Van den Heede K, Diya L, Lesaffre E, Vleugels A, Sermeus W. Benchmarking nurse staffing levels: the development of a nationwide feedback tool. *J Adv Nurs*. 2008;63(6):607-618.
6. Carayon P, Gurses A. Nursing workload and patient safety- a human factors engineering perspective. In: Hughes RG, ed. *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Rockville, MD: Agency for Healthcare Research and Quality; 2008:1-14
7. Brady A, Bryne G, Horan P, Griffiths C, Macgregor C, Begley C. Measuring the workload of community nurses in Ireland: a review of workload measurement systems. *J Nurs Manag*. 2007;15:481-489.

AUTHORS

When this article was written, COL Wolgast (Ret) was the MEDCOM Chief Nurse Executive and Functional Proponent, Headquarters MEDCOM, Fort Sam Houston, Texas.

LTC Taylor is the MEDCOM Nurse Acquisition Officer and WMSNi Program Manager, Headquarters MEDCOM, Fort Sam Houston, Texas.

LTC Garcia is the Consultant Nursing Methods Analyst to the Office of The Surgeon General, Headquarters MEDCOM, Fort Sam Houston, Texas.

LTC Watkins is the Chief Medical Information Officer, Pacific Regional Medical Command and Tripler Army Medical Center, Honolulu, Hawaii.

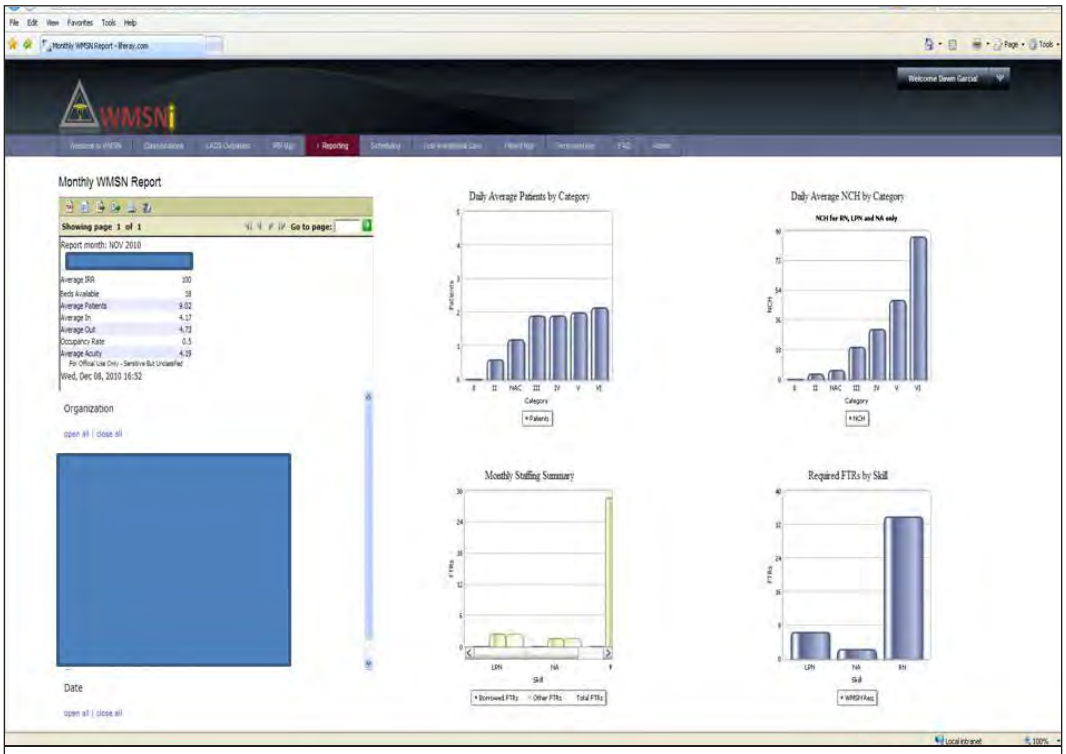


Figure 7. An example of a report available within WMSNi.

Using Force Structure Analysis to Drive Transformation

COL Carol J. Pierce, AN, USA
COL Janice F. Nickie-Green, AN, USA

The Army's greatest resource is its people. Within the Army Nurse Corps vision — Embrace the Past, Engage the Present, and Envision the Future — a critical process is to ensure that the personnel force structure (the people) of the Army Nurse (AN) Corps must be transformed to support the complex healthcare missions of the 21st century. This incorporates our lessons learned, both from the garrison (home station) daily healthcare missions and the healthcare support in multiple combat theaters of operation. This article discusses the analytical and business applications used to project future AN Corps officer force structure requirements and associated Army Medical Department Center and School (AMEDDC&S) training strategies. Additionally, the article provides examples of the synchronization of force structure and training strategies to execute the Corps Chief's vision of optimizing human capital in support of the Army Medical Department (AMEDD) and Army missions.

In the autumn of 2009, the Chief, Army Nurse Corps reestablished a separate functional staff position of the Army Nurse Corps, the Corps Specific Branch Proponency Officer (AN CSBPO), previously a "dual-hatted" position under the AN Deputy Corps Chief. Serving as the coordinator for developing and maintaining the Corps' strategic plan and its integration into the AMEDD's strategic vision, the AN CSBPO serves as a special staff officer to the AN Corps Chief and Deputy Corps Chief.[1] As such, the AN CSBPO primarily serves as the integrator between the Corps Chief's vision and senior AN Corps leaders, including the Chief Nurses of the Army Medical Command (MEDCOM), Army Forces Command, Army Human Resources Command, Army Recruiting Command, and Reserve Officer Training Corps (ROTC) respectively. Each of these senior AN Corps leaders oversee components of personnel management within the Corps. Each senior AN Corps leader has a different view of the force that provides the AN CSBPO essential information required for the projection of future requirements. Failure to maintain a robust dialogue among these key leaders can contribute to gaps in vital information necessary to make cogent, strategic, corporate decisions. The AN CSBPO position also serves as the linchpin between future force structure modeling executed by the AMEDD Personnel Proponent Directorate (APPD), and associated training strategies executed by the Department of Nursing Science, AMEDDC&S.

The APPD serves as The Surgeon General's personnel analysis activity. It partners with the Medical Capabilities Integration Center and Office of The Surgeon General (OTSG) Program Analysis and Evaluation to perform operating force and generating force structure analysis. The APPD provides input to life cycle management of all AMEDD areas of concentration (AOC), military occupational specialties, and civilian occupational series. The Personnel Proponent Officers of the APPD Officer Personnel Proponent Division (OPPD) are responsible for personnel force structure projections and analyses. The Division performs analysis and develops AMEDD officer personnel policy recommendations and strategic initiatives to assist The Surgeon General; the Commanding General, AMEDDC&S; and the AMEDD Corps Chiefs in support of their roles within the AMEDD in accordance with *Army Regulation 600-3*[2] and *Army Regulation 5-22*.[3] As the AMEDD officer personnel proponent integration activity, the OPPD recommends personnel management policies to the OTSG Human Resources Directorate for AMEDD officer and warrant officer personnel, using the Army personnel life-cycle management functions (Figure 1).

The Army National Guard and the Army Reserve work in collaboration with the Active Army AN Corps on specific proponent issues. The Army Reserve OPPD Personnel Proponent Officers are not Corps-specific and are responsible for overarching Army Reserve proponent issues and collaboration on policies and plans for Army Reserve AMEDD officers. The budgeted end strength for the Army Reserve is generated by the Chief, Army Reserve.

Army Reserve Personnel Proponent Officers develop, coordinate, and integrate life-cycle issues with the appropriate entities including The Surgeon General; Office of the Chief, Army Reserve; National Guard Bureau; Assistant Secretary of the Army, Manpower and Reserve Affairs; MEDCOM; Army Recruiting Command; Army Reserve Command; and the Commanding General, AMEDDC&S. Collaboratively, the APPD staff officers responsible for personnel force structure and lifecycle projections use a suite of tools to support this work.

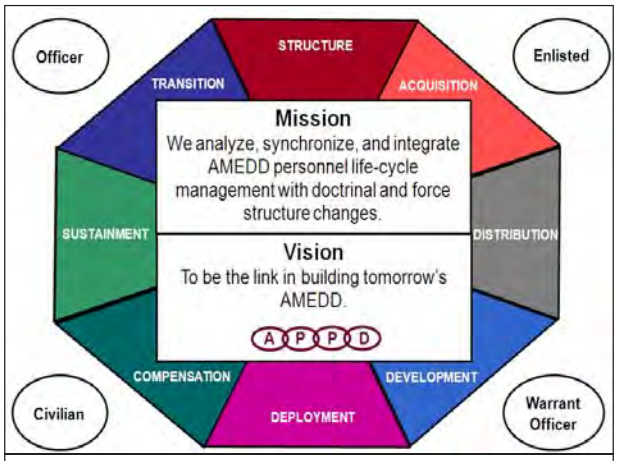


Figure 1. The AMEDD Personnel Proponent Directorate adaptation of the US Army personnel life-cycle management functions.

The OTSG Human Resources Directorate provides APPD with the budgeted end strength for the Active Army officer corps. The APPD Army Nurse Personnel Proponent Officer is responsible for developing the Objective Force Model (OFM) for the Army Nurse Corps. The model must be developed within the constraints of the Corps' budgeted end strength. The AN Personnel Proponent Officer, in conjunction with APPD's operations research analyst, uses the budgeted end strength of the Army Nurse Corps, which includes the documented authorizations in both the tables of distribution and allowances* and tables of organization and equipment,† the allocated nonavailable force (not available for distribution, such as transients, holdees, and students), and the allocated AMEDD branch immaterial structure‡ to determine the number of personnel by specialty AOC and grade that are required to sustain lifecycles for the respective AOCs. The OFM variables include the number of accessions by AOC and grade, the promotion rates to major, lieutenant colonel, and colonel, and the yearly transition percentage from feeder AOCs into other AOCs (eg, 66H, Medical-Surgical Nurse to 66G, Obstetric and Gynecologic Nurse) as applicable. The OFM also considers due course officers (those officers who enter the Corps at the grade of 2nd lieutenant) and non-due course officers (those officers that enter the Corps with constructive credit and possibly advanced grades based on education and/or experience). Using well-proven computer-based modeling, the total budgeted end strength for that year is distributed across all AN Corps AOCs to ensure that each AOC reflects a balanced rank structure and optimal inventory at each year of service. This is essential to ensure compliance with recommended Defense Officer Personnel Management Act (DOPMA) (Pub L No. 96-513 (1980)) promotion rates for every grade and AOC. The AN Personnel Proponent Officer presents the OFM to the AN CSBPO and Deputy Corps Chief, who then obtain the AN Corps Chief's approval. The AN Corps Chief is the approval authority for the Corps' OFM. Once approved, the OFMs are used to support force management decisions, including promotions, accessions, training requirements, and AOC transitions. Additionally, the OFMs prescribe the optimal inventory target at each year of service (Figure 2).

For the Reserve Component, the Reserve Officer Personnel Management Act (ROPMA) (Pub L No. 103-337 (1996)) serves the same purpose as the Active Army's DOPMA. The act synchronizes the Reserve Component promotion system with that of the Active Army. The fact that ROPMA replaced the fully-qualified system with best-qualified is of significant importance for career advancement because it allows the Army Reserve to mirror the Active Army for promotion purposes. The Army Reserve OFMs present a snapshot in time for the force structure by grade, year group, and AOC. These models are developed for 3 Reserve Component segments: Army Reserve Selected Reserve (Troop Personnel Unit, Individual Mobilization Augmentee); Army Reserve Individual Ready Reserve; and Active Guard Reserve officers.

*Table of Distribution and Allowances: Prescribes the organizational structure, personnel and equipment authorizations, and requirements of a military unit to perform a specific mission for which there is no appropriate table of organization and equipment.

†Table of Organization and Equipment: Defines the structure and equipment for a military organization or unit.

‡Immaterial structure positions can be filled by any AMEDD Corps, rather than a specific Corps and AOC.

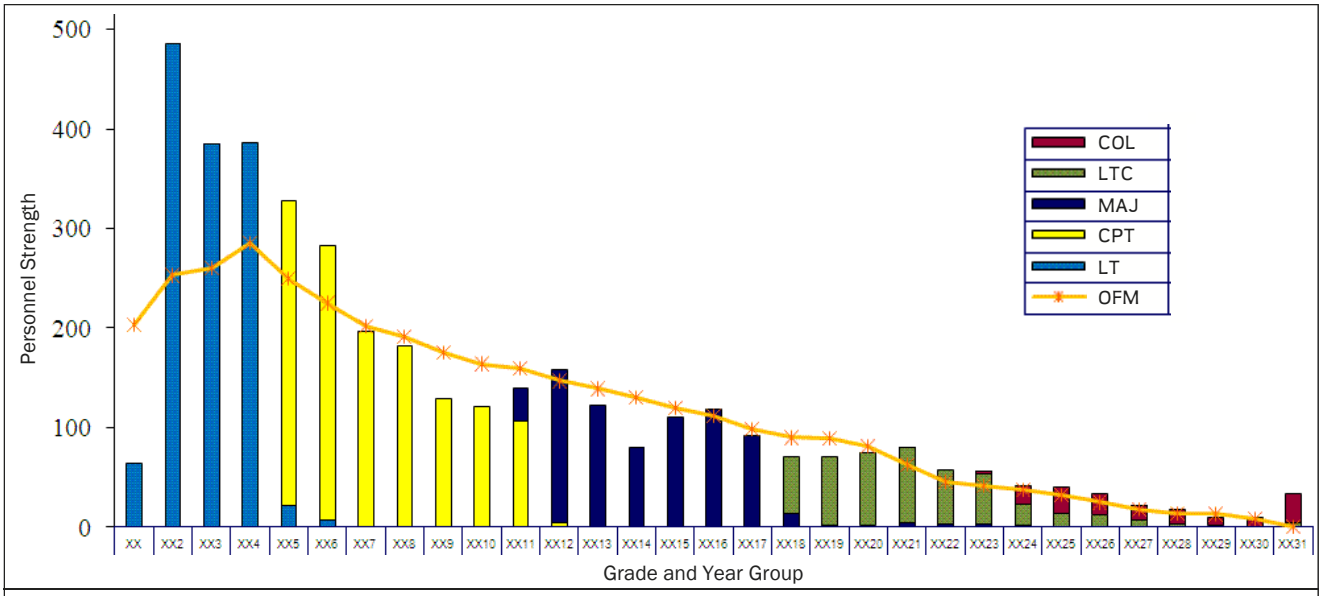


Figure 2. The optimal Active Army AN Corps personnel strength recommended by the Objective Force Model (OFM) plotted against the Active Army personnel strength by grade and year group. Data current as of January 2011. Source: Army Medical Operational Data System.

The Active Guard Reserve officers are currently in a separate competitive category and have separate OFM histograms for the personnel structure by year group. The Army National Guard has one set of models and histograms depicting inventory, but unlike the Army Reserve, it does not have separate categories of officers. The goal is to have a close relationship between the OFM line and the number of officers in a respective AOC by promotion year group (Figures 3 and 4). Like the Active Army, the Reserve Component OFMs and histograms are the foundation for many of the Army Reserve APPD recommendations and the basis for present and future force structure, promotion rates, incentives, training, school seats, recruiting goals, and sustainment of the force. All models—Active Army, Army Reserve, and Army National Guard—are dynamic in that they change and evolve as changes occur within the Army.

The APPD plays a key role in supporting the decision-making process regarding training requirements for each specialty area, for graduate and doctoral education, and for the leader development programs to include the Basic Officer Leadership Course, Captains Career Course, and Army Intermediate Level Education Course. Using the OFM projections and historical utilization data, APPD coordinates with the training arm of the AMEDDC&S and recommends the appropriate number of training seats to ensure that the correct numbers of AN assets, by specialty, are available to meet mission requirements. This coordination supports the AMEDDC&S Pre-Structure Manning Decision Review process and informs the Army's Structure Manning Decision Review that validates training requirements, compares training requirements with resource capabilities, and reconciles differences into an affordable, acceptable, and executable training program to meet readiness objectives.[4]

The APPD uses the OFM in conjunction with the Corps' strategic vision to support analysis of the AMEDD's Long-Term Health Education and Training programs. The AN CSBPO and AN Personnel Proponent Officer are the AN Corps' representatives at the AMEDDC&S for implementation of the graduate Long-Term Health Education and Training Policy established in 2009. This policy established a multi-phased process for determination of each Corps' graduate training requirements based upon current and projected inventory, authorized positions, postgraduate utilization assignments, and financial resources. In the first year of implementation, the policy has driven comprehensive analyses of personnel authorization documents to validate actual graduate and doctoral civilian education level training requirements. This includes collaboration with AN consultants to The Surgeon General and the AN Branch, Army Human Resources Command, to project future utilization tours based on personnel authorization documents. Additionally, collaboration is done with the AN representative,

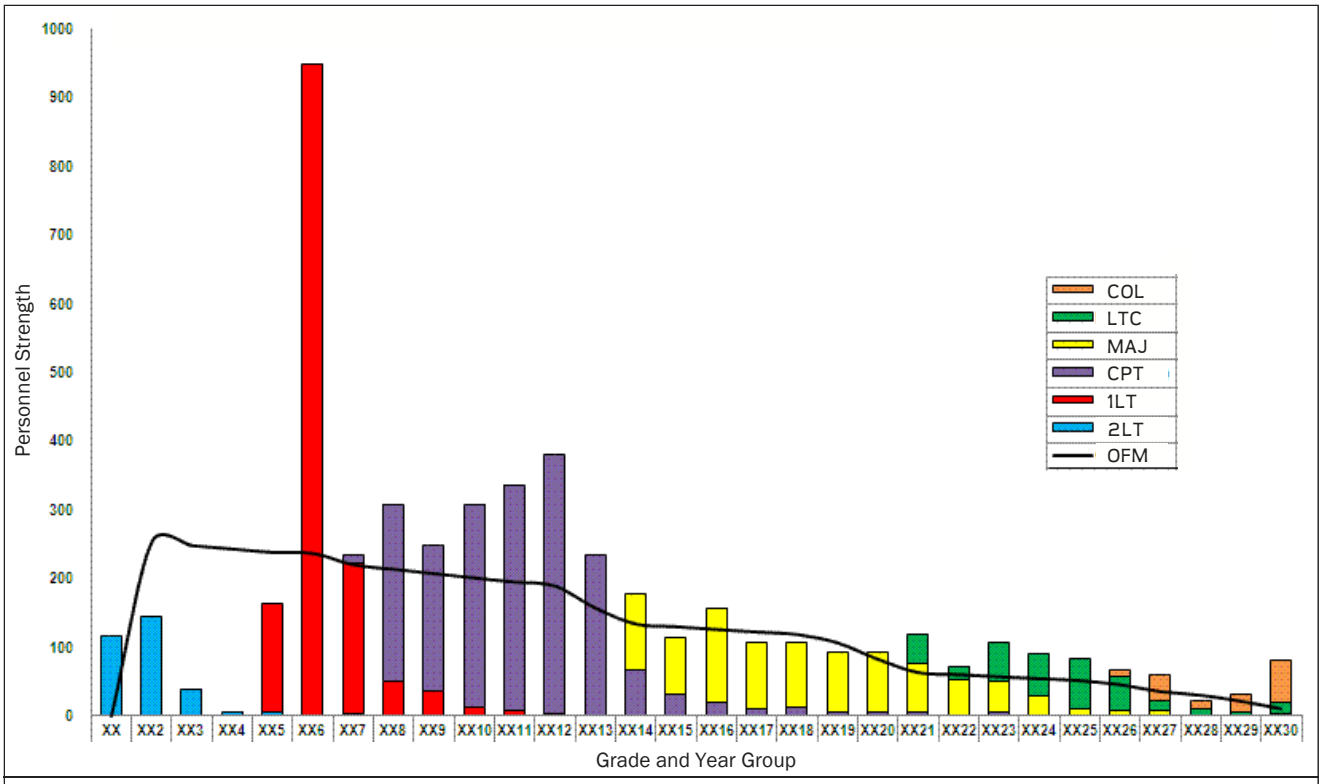


Figure 3. The optimal Army Reserve Component AN Corps personnel strength recommended by the Objective Force Model (OFM) plotted against the Army Reserve Component strength by grade and year group. Data as of January 2011. Source: Total Army Personnel Database-R.

AMEDDC&S Department of Health Education and Training, to project the fiscal costs of graduate education. The APPD's AN Personnel Proponent Officer also uses AOC-specific school seat models to validate prospective programmed graduate education starts, AOC and skill identifier training requirements, and to evaluate the need for civilian education level coded authorizations. Additionally, Corps Personnel Proponent Officers conduct analyses to determine the status of, and need for, training seats for the Basic Officer Leadership Course, Captains Career Course, and Army Intermediate Level Education courses.

The APPD provides recommendations annually for the development of the AMEDD Recruitment Strategy Memorandum for the Army's Accessions Command. The memorandum provides the guidance for direct accession requirements, including advanced practice nurse (eg, certified registered nurse anesthetists and family nurse practitioners) direct accession recruitment, and fully qualified AOC or skill identifier-specific (eg, critical care, perioperative, medical surgical) direct accession recruitment. The basis of the memorandum is the OFM; current AN inventory; projected ROTC AN commissions; and candidates in the Army Nurse Commissioning Program, the AMEDD Enlisted Commissioning Program (AECP), and the Funded Nurse Education Program (FNEP). In collaboration with AN senior leaders, the AN CSBPO, Accessions Command, and the AN Personnel Proponent Officer, a "precision recruitment" strategy is formulated to balance the accession of newly licensed nursing graduates without clinical experience coming from ROTC, AECP, or FNEP with the direct accession of registered nurses with clinical experience and/or advanced degrees. Precision recruitment also balances the direct accession of officers with clinical experience but without military experience with officers who have some past military experiences through ROTC, AECP, or FNEP, but limited clinical experience. The goal for future accession strategies is to proportionally balance recruitment through the available accession portals to maintain the inventory within the defined AN Corps budgeted end strength, while ensuring accession of personnel with needed capabilities.

Another collaborative initiative between the AN CSBPO, AN Personnel Proponent Officer, MEDCOM

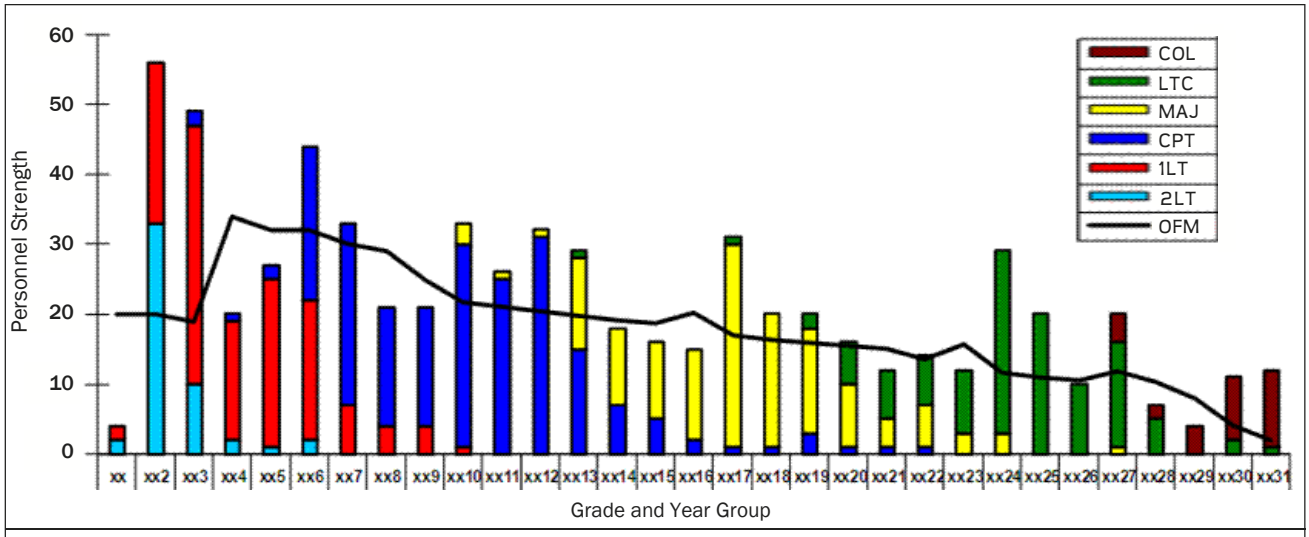


Figure 4. The optimal Army National Guard AN Corps personnel strength recommended by the Objective Force Model plotted against the Army National Guard strength numbers by grade and year group. Data as of September 2010. Source: Total Army Personnel Database-G.

Chief Nurse, Regional Nurse Executives, and the AMEDDC&S Department of Nursing Science has been the examination of the authorized AN generating force structure by AOC and grade to determine if the current force structure meets the mission requirements of today and tomorrow. The first key area examined was the current allocation of AN colonels by location and AOC to determine if the grade and AOC were appropriate for the location and the mission. The initial review indicated that numerous positions were identified as AOC-specific, primarily 66H (Medical-Surgical), when the actual duty responsibilities were administrative in nature and could feasibly be assigned to qualified AN officers within other AN specialty nursing practice areas. By recoding these positions from 66H to 66N (Operational Nursing), the best qualified officer leader from any AN AOC could be assigned to the position. From a career life-cycle perspective, conversion of senior level positions to 66N opens advanced leadership opportunities to AN officers who may have felt constrained by the limited number of senior positions identified within their respective specialty areas. Positions requiring specific clinical capabilities are not affected by this initiative. This same collaborative process will be used to examine the other office grades and AOCs within each facility defined by a table of distribution and allowances (TDA). Additionally, through a work group led by the MEDCOM Decision Support Cell, the nursing requirements for several inpatient units within TDA facilities were examined to ensure optimization of nursing personnel resources based upon workload and changes in AMEDD missions. This optimization study provided recommendations to the senior AMEDD leadership for reallocation of nursing assets to best support the corporate AMEDD mission and clinical skills needed by AN officers when supporting Army missions. The findings of the recent optimization study have been incorporated in the decision-making processes of the 2011 Human Capital Distribution Conference.

While the AN Personnel Proponent Officer and AN CSBPO are primarily focused on future structure and training requirements, the roles also intersect with the MEDCOM Manpower Division as they examine current manpower requirements and authorizations. Recently, the AN CSBPO joined the Manpower Division in an examination of nursing administrative staffing models for clinical inquiry cells, research nurses, nurse methods analysts, and clinical nurse specialists. While currently not approved for implementation, the initiative would establish the nursing requirements to support the AN Corps Chief's implementation of the Patient CaringTouch System—the Army Nursing model for standardization of nursing practice—which dovetails with The Surgeon General's "Culture of Trust" imperative.

In order to build an Army Nurse Corps that can support both the garrison healthcare missions and wartime healthcare requirements in theaters of operation, the AN CSBPO role includes assessment of theater lessons learned to revise force structure and training strategies as indicated. An example of the role

of the AN CSBPO and AN Personnel Proponent Officer in deployment related issues is drawn from Corps experiences in 2009. During a Corps update brief to the Chief, Army Nurse Corps, the Emergency Nurse Consultant to The Surgeon General identified significant shortfalls in the distributable inventory of qualified 66HM5 (Emergency Nursing) officers. This shortfall was exacerbated by the significant deployment requirements in support of both Operation Iraqi Freedom and Operation Enduring Freedom, which presented the potential for 66HM5 officers to be redeployed earlier than the allocated "dwell time" between theater deployments. The Consultant's concerns led to an intensive analysis of 66HM5 and 66H8A (Critical Care Nursing) inventory, annual training requirements, and retention issues. Key problem areas were identified, including "masked losses" of these 2 specialty areas to other AOCs, specifically 66F (Nurse Anesthetist) and 66P (Family Nurse Practitioner), and a proportionally greater loss of 66HM5 and 66H8A from the Army Nurse Corps at the end of initial service obligations. The analysis also revealed a need for additional annual training seats, especially within the 66HM5 Emergency Nursing Course. In addition, the staff of the Human Resource Command AN Branch identified a substantial waiting list of applicants for the 66HM5 Emergency Nursing Course. The AN CSBPO and AN Personnel Proponent Officer expanded the personnel force structure analyses to determine inventory shortfalls for both 66H8A and 66HM5 personnel. While past models examined AOC inventory, in this case, for the total 66H Medical Surgical Nurse population, the skill identifier-specific model (coined "school seat models" by APPD) scrutinized losses of the skill identifiers 66H8A and 66HM5 populations. The AN Personnel Proponent Officer also added an additional consideration in the model which examined the previously unaccounted losses of these 2 skill identifier specialty populations as they transitioned into other AOCs.

With the information derived from the analytical modeling and the identified inventory shortfalls, the AN CSBPO and AN Personnel Proponent Officer coordinated with the AMEDDC&S Department of Nursing Science (DNS) to examine current training strategies and training seats for the 2 specialty courses. The DNS identified a training capacity constraint within the 66HM5 Emergency Nursing Course which was conducted only at the Brooke Army Medical Center. Based on this assessment, DNS prepared a business case analysis in coordination with nursing leadership at Madigan Army Medical Center to open a second Emergency Nursing Course. The AMEDDC&S approved the initial pilot funding, and the first 66HM5 course began at Madigan in the fall of 2010. A second business case analysis for sustained funding of the Madigan 66HM5 course received funding approval in November 2010. This initiative doubles the number of 66HM5 graduates per year, thus expanding the available inventory of 66HM5 nursing personnel for garrison military treatment facilities as well as deployed combat support hospitals and forward surgical teams.

The above initiative was implemented to resolve the current shortfalls in distributable inventory, while the AN CSBPO, AN Personnel Proponent Officer, and DNS work to develop a long term strategy for both the 66H8A and 66HM5 programs. One of the proposals considered by the AN Corps Chief is the creation of an AOC that combines the 66H8A and 66HM5 authorizations, thereby removing them from the 66H Medical Surgical Nurse AOC. The Critical Care Consultant to The Surgeon General, the Emergency Nursing Consultant to The Surgeon General, AN CSBPO, and DNS are examining core competency requirements and revisions of the current 66H8A and 66HM5 specialty courses to ensure future applicability to all AMEDD and Army missions. The focus is on the ability of both specialty categories to provide expert patient care, whether in the emergency care or critical care environment. Based on theater lessons learned, a need for additional curriculum related to the patient movement/enroute care of critical care/trauma patients has been identified. This includes curriculum related to basic patient movement concepts for in-hospital transports (eg, to radiology for special procedures) or transports to other treatment facilities, and for ground or air transports within theaters of operation. This requirement is not intended to replace current enlisted Health Care Specialist (military occupational specialty 68W) personnel. It is intended to ensure that hospitalized, stabilized, critically ill trauma patients (whether in a combat support hospital or forward surgical team facility) receive the same level of critical care when transported between military treatment facilities intratheater, or to Air Force strategic staging areas for air evacuation from the theater of operation. After consideration of the advantages of combining the 66H8A and 66HM5 skill identifiers, the AN Corps Chief approved the proposal to integrate the critical

care and emergency nursing specialties. That change process is now underway. The 2 specialties will be combined into an AOC titled "Trauma Nursing."

The DNS at AMEDDC&S is conducting a similar bottom-up review of all AN AOC, skill identifier, and professional leadership development courses within its purview. The objective is to ensure that the curriculum and training strategies for each program will support current and future healthcare mission requirements, thereby Envisioning The Future.

Simultaneously, the Army Nurse Corps examined other AOC and skill identifier categories to determine the optimal alignment of specialty care nurses for future missions. Similar to the analyses conducted for the 66H8A and 66HM5 populations, the AN Personnel Proponent Officer reviewed the current 66G (Obstetric-Gynecologic Nurse), 66G8D (Nurse Midwife), 66C (Psychiatric Mental Health Nurse), and 66CM8 (Psychiatric Nurse Practitioner) populations to determine if delineation of the advanced practice nurses (midwives and psychiatric nurse practitioners) as separate AOCs is a feasible course of action. The examination and analysis demonstrated that the establishment of separate AOCs for those advanced practitioners is warranted. As with the critical care and emergency care nursing populations, the actual distributable inventories of obstetrical/gynecological nurses and psychiatric mental health nurses are masked when a portion of the population is attending graduate training for advanced practice nursing roles. By separating the groups into distinct AOCs, the actual distributable inventory can be more easily tracked, while the required annual specialty training requirements can be adjusted to compensate for actual losses as nurses transition to advanced practice or other roles. Initial analysis indicates that the creation of separate AOCs retains promotion rates for each group within DOPMA guidelines. Additionally, monitoring of the actual distributable inventory would be enhanced to better support current and future missions. The Chief, Army Nurse Corps has approved the strategy to create these new AOCs, and APPD has prepared the required documentation. As this article is written, staffing of that documentation to all stakeholders is in progress.

The Army Nurse Corps transformation includes development of personnel and training strategies congruent with future mission requirements. Through the analyses of personnel and operational data from multiple sources, and with the guidance of the AN Corps Chief and Deputy Corps Chief, the AN CSBPO and the AN Personnel Proponent Officer have established and codified administrative processes to ensure continuity, both now and beyond the transition of current staff officers from these positions. For the AN CSBPO and AN Personnel Proponent Officer, Envision The Future served as the mantra for transformation of the AN personnel force structure and training requirements in support of current and future healthcare missions in concert with the AN Corps Chief's strategic vision.

Acknowledgements

We thank LTC Gabriella Miller, Army Reserve Personnel Proponent Officer, and LTC Patricia Steinocher, Army National Guard Personnel Proponent Officer, for their input concerning the Reserve Component and the Army National Guard respectively. We also thank COL Kaylene Curtis and Mr Keith Parker for their reviews and recommendations in preparation of this article.

References

1. *MEDCOM Regulation 10-2/OTSG Regulation 10-32: Organization and Functions, Headquarters, United States Army Medical Command*. Fort Sam Houston, Texas: Headquarters, United States Army Medical Command; September 29, 2010.
2. *Army Regulation 600-3: The Army Personnel Development System*. Washington, DC: US Dept of the Army; February 28, 2009.
3. *Army Regulation 5-22: The Army Force Modernization Proponent System*. Washington, DC: US Dept of the Army; February 6, 2009.
4. *Army Regulation 350-1: Army Training and Leader Development*. Washington, DC: US Dept of the Army; December 18, 2009:10.

Authors

When this article was written, COL Pierce was the Army Nurse Corps Specific Branch Proponency Officer, AMEDDC&S, Fort Sam Houston, Texas.

COL Nickie-Green is the Army Nurse Corps Personnel Proponent Officer, AMEDD Personnel Proponent Directorate, AMEDDC&S, Fort Sam Houston, Texas.

Precision Recruiting: Building the Optimal Army Nurse Corps

LTC Anthony J. Bohlin, AN, USA

Considering the changing market for registered nurses in the United States and the complex factors that influence decisions to remain on active duty, The Chief of the Army Nurse Corps, MG Horoho, noted at the beginning of her tenure that it was important to obtain data to support appropriate strategies to recruit military nurses. She tasked the nurse researchers to use data to evaluate our accession portals and make timely changes on how we recruit, retain, and incentivize nursing personnel to remain a part of our nursing team. Using evidence-based processes to evaluate the data allowed her to look at among whom, when, and where we have the greatest attrition, and how attrition is impacting the care we provide for our beneficiaries. This data assisted her in the development of a new recruiting strategy, called precision recruiting, whereby we are recruiting experienced medical-surgical and specialty trained nurses from the civilian nursing population. This strategy has provided us with a balanced force of new nurse graduates with more experienced clinical nurses. Leveraging data allowed us to determine the need for precision recruiting, ie, targeted recruiting of critical low densities. As a result, we increased our recruitment of nurse anesthetists, behavioral health nurse practitioners, family health nurse practitioners, and critical skills such as emergency room and critical care trained nursing personnel. These skills are especially in high demand with our nation's continued involvement in overseas contingency operations. Working closely with the Army Accessions Command, we are formulating a recruitment strategy that ensures a consistent pipeline of Reserve Officer Training Corps, Army Enlisted Commissioning Program, and Federal Nurse Commissioning Program graduates, balanced with direct accessions of experienced nursing personnel.

In an evidenced-based approach to fulfill the recruiting mission for the Army Nurse Corps (ANC), the precision recruiting paradigm was developed and implemented for fiscal year 2011 and beyond. Precision recruiting is the key to optimizing the ANC capabilities and capacity to support current and future missions of the ANC and Army Medical Department (AMEDD). This precision recruiting paradigm is the future of AMEDD recruiting, and is vital to the future success of the AMEDD, in both the theatre of operations and in the garrison environment. According to COL R. S. Dingle, Commander, Medical Recruiting Brigade (MRB):

> Precision, whether in the MRB or nonprior service mission, is, bottom line, about filling a precise number of openings in the specific areas the Army needs filled, which greatly impacts Army operations.
>
> The impact of how we do precision recruiting is going to have second and third order effects from the point of injury…all the way back to the hospital. It's incumbent upon us, as the Army's medical recruiters, to fill those shortages so the AMEDD can execute its mission. If we don't successfully execute precision recruiting, we will always have shortfalls within the Army Medical Department.

Precision recruiting starts with the receipt of precise requirements. In the case of the ANC, the senior leadership takes into account the current shortfalls in the force structure, emerging initiatives and trends, and future needs associated with the ANC in establishing the specific requirements for the Corps. These requirements are the basis for the recruiting and accession missions for fiscal years 2011 and beyond for not only the Medical Recruiting Brigade, but also for the Army Cadet Command. The key Areas of Concentration (AOCs) for fiscal years 2011 and 2012 are 66F (Nurse Anesthesia), 66P (Family Nurse Practitioner), 66E (Operating Room Nurse), 66CM8 (Psychiatric Nurse Practitioner), 66C (Psychiatric Nurse), 66H8A (Critical Care Nurse), 66HM5 (Emergency Room Nurse), and 66G (OB/GYN Nurse).

In addition to establishing the specific requirements, the senior ANC leadership, along with the Army Accessions Team, established incentives and other programs to support precision recruiting efforts. The

Precision Course Guarantee program was added to the ANC recruiting toolkit in fiscal year 2011. This program allows nurses with one or more years of nursing experience to attend an AOC-producing course of their choice upon successful completion of the Basic Officer Leaders Course, with follow-on duty as a nurse in the chosen AOC. The AOCs offered under this pilot program were 66E, 66C, 66H8A, 66HM5 and 66G. This program proved quite successful in recruiting and accessing 10 operating rooms nurses and 2 emergency room nurses for the ANC in fiscal year 2011. This course will continue in fiscal year 2012 and will focus on the AOCs mentioned earlier.

The Health Professional Scholarship Program (HPSP) was also extended to ANC recruiting efforts in support of the 66F, 66CM8, and 66P AOCs. In fiscal year 2011, 2 individuals were recruited under this program for the 66CM8 and 66P AOCs. The HPSP will be extended to the 66F, 66CM8 and 66P AOCs for fiscal year 2012.

The recruiting mission for fiscal year 2012 is more precise than in previous years. The 66F effort will increase to 10 applicants for the nurse anesthesia program, and 10 fully-qualified certified registered nurse anesthetists. The MRB will also have, for the first time, a mission for 66CM8. the psychiatric nurse practitioner population of providers are important members of the behavioral health team in both fulfilling the garrison and go-to-war missions of the ANC. With the increased demand for behavior health assets comes a greater demand for providers such as the psychiatric nurse practitioner. The MRB will have a 66CM8 goal of five in fiscal year 2012. The HPSP, as well as an accession bonus and loan repayment program, will assist the recruiting force in recruiting and accessing this high demand population.

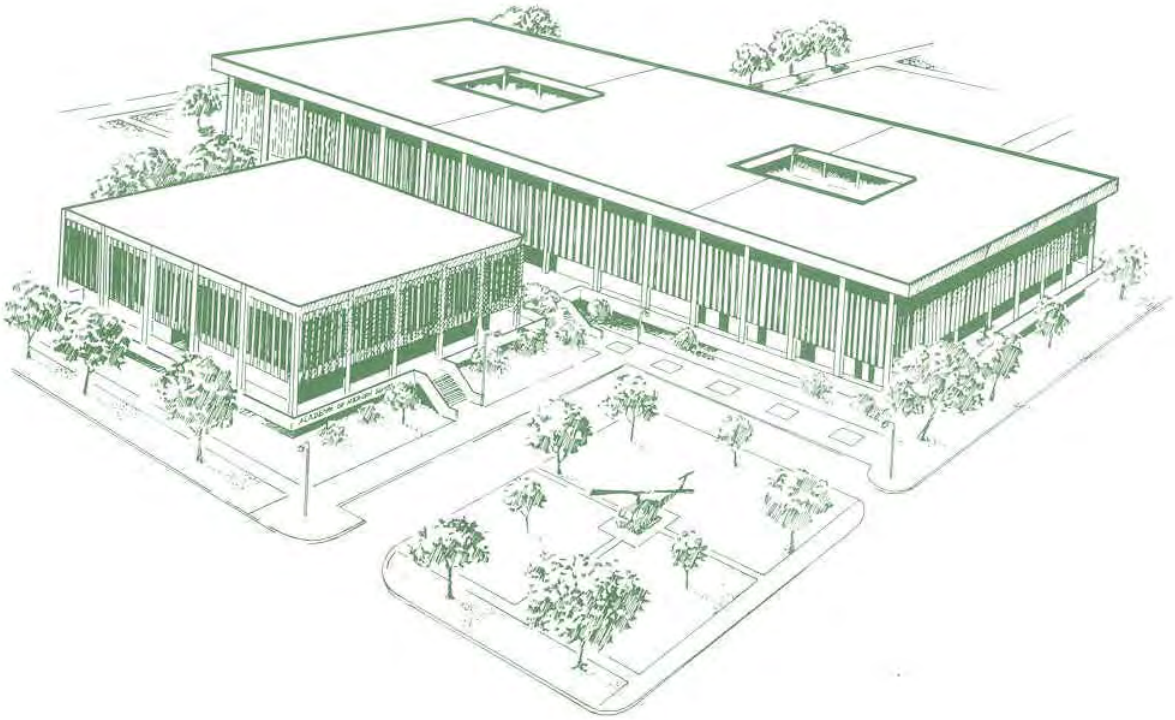
Precision recruiting impacts all aspects of AMEDD recruiting. Marketing and advertising strategies no longer focus on the ANC in general, but rather focus on specific ANC areas of concentration. The AMEDD recruiter also adapted their prospecting techniques and recruiting strategies in order to achieve this more precise mission. Precision recruiting requires the AMEDD recruiter to focus less on the student markets and more on the challenging working markets. As explained by MRB Command Sergeant Major Luther Legg III:

> Each of the AMEDD AOCs, including the ANC AOCs, has a different life cycle, and each phase of the life cycle requires a different message to show the Army's benefit to the applicant. An example is the student nurse who will soon transition to practicing nurse has different concerns than a more seasoned practicing nurse. Likewise, a medical surgical nurse has different concerns than a nurse anesthetist or psychiatric nurse practitioner.

These efforts are combined with those of the second leg of the Army Accessions team, the Reserve Officer Training Corps, through the US Army Cadet Command. The Cadet Command selectively recruits the highest quality future ANC officers from throughout the country. Its mission is to provide approximately 95% of the generic baccalaureate (BSN) degreed nurses for the Army Nurse Corps and the AMEDD. This cohort of nurses come into the organization with a higher degree of proven military leadership skills than that typically found in our direct commissioned cohort. As part of the Army Accessions Command's long-term effort to fill various AOC shortages, distinguished military graduates are granted generic course guarantees. After attending the clinical nurse transition program, they will be scheduled to attend one of the AOC-producing programs which should minimize our shortages over time. Precision recruiting provides for the conditions-based capability and capacity, as well as the talent the Army Nurse Corps needs, both for current operations and for future missions in the 21st century.

Author

LTC Bohlin is the AMEDD Integration Officer, Directorate of Officer Accessions Coordination, US Army Accessions Command, Fort Knox, Kentucky.



The headquarters and primary instructional facility of the Army Medical Department Center and School, located on the Military Medical Education and Training Campus, Fort Sam Houston, Texas.

THE US ARMY MEDICAL DEPARTMENT REGIMENT

The US Army Medical Department was formed on July 27, 1775, when the Continental Congress authorized a Medical Service for an army of 20,000 men. It created the Hospital Department and named Dr Benjamin Church of Boston as Director General and Chief Physician. On 14 April, 1818 the Congress passed an Act which reorganized the staff departments of the Army. The Act provided for a Medical Department to be headed by a Surgeon General. Dr Joseph Lovell, appointed Surgeon General of the United States Army in April 1818, was the first to hold this position in the new organization. The passage of this law marks the beginning of the modern Medical Department of the United States Army.

Throughout its early history, the size and mission of the US Army Medical Department would wax and wane in response to military events around the world. There was, however, no formal regimental organization until World War I. Then, in the late 1950s, the brigade replaced the regiment as a tactical unit. In the reorganization that followed, some Army units lost their identity, their lineage, their history. This loss did not go unnoticed. The US Army Regimental System was created in 1981 to provide soldiers with continuous identification with a single regiment. Department of the Army Regulation 600-82, The US Army Regimental System, states the mission of the regiment is to enhance combat effectiveness through a framework that provides the opportunity for affiliation, develops loyalty and commitment, fosters a sense of belonging, improves unit esprit, and institutionalizes the war-fighting ethos.

The US Army Medical Department Regiment was activated on July 28, 1986, during ceremonies at Fort Sam Houston in San Antonio, Texas, the “Home of Army Medicine.” Lieutenant General Quinn H. Becker, the US Army Surgeon General and AMEDD Regimental Commander, was the reviewing officer. He was joined by general officers of the US Army Reserves and the Army National Guard, representing the significant contributions and manpower of the reserve forces in the Total Army concept.

INSIGNIA

The AMEDD Regimental Distinctive Insignia was designed by the Institute of Heraldry and is one of the oldest crests In the Army today. The 20 stars on the crest correspond to the number of states in the Union between December 10, 1817, and December 3, 1818. The origin of the crest dates from the Act of April 14, 1818, by which the Medical Department of the Army was first organized.

The alternating red and white stripes on the left side of the shield are the 13 stripes of the American Flag. The green staff is the staff of Asclepius (according to Greek mythology, the first healer, the son of Apollo, the sun god); and green was a color associated with the Medical Corps during the last half of the 19th century. The phrase “To Conserve Fighting Strength” gives testimony to our mission as combat multipliers and guardians of our Nation's strength and peace.

INFORMATION

The Regimental web site (http://ameddregiment.amedd.army.mil/default.asp) is designed to provide you with useful information about the US Army Medical Department (AMEDD) Regiment. Through the web site, you can learn the history of the AMEDD Regiment, the symbolism behind our heraldic items, how to wear the Regimental Distinctive insignia, and various programs available to you and your unit.

The Office of the AMEDD Regiment is located in Aabel Hall, Building 2840, on Fort Sam Houston, Texas. The Regimental staff can provide further information pertaining to the history of the Army Medical Department and the AMEDD Regiment, and assist with any of the services described in the web page.

For additional information please contact the Army Medical Department Regimental Office at the following address:

Commander
US Army Medical Department Regiment
ATTN: MCCS-GAR
2250 Stanley Road
Fort Sam Houston, Texas 78234-6100

The telephone number is (210) 221-8455 or DSN 471-8455, fax 8697.

Internet: http://ameddregiment.amedd.army.mil/

Email: amedd.regiment@amedd.army.mil

SUBMISSION OF MANUSCRIPTS TO THE *ARMY MEDICAL DEPARTMENT JOURNAL*

The *United States Army Medical Department Journal* is published quarterly to expand knowledge of domestic and international military medical issues and technological advances; promote collaborative partnerships among the Services, components, Corps, and specialties; convey clinical and health service support information; and provide a professional, high quality, peer reviewed print medium to encourage dialogue concerning health care issues and initiatives.

REVIEW POLICY

All manuscripts will be reviewed by the *AMEDD Journal*'s Editorial Review Board and, if required, forwarded to the appropriate subject matter expert for further review and assessment.

IDENTIFICATION OF POTENTIAL CONFLICTS OF INTEREST

1. **Related to individual authors' commitments:** Each author is responsible for the full disclosure of all financial and personal relationships that might bias the work or information presented in the manuscript. To prevent ambiguity, authors must state explicitly whether potential conflicts do or do not exist. Authors should do so in the manuscript on a conflict-of-interest notification section on the title page, providing additional detail, if necessary, in a cover letter that accompanies the manuscript.
2. **Assistance:** Authors should identify Individuals who provide writing or other assistance and disclose the funding source for this assistance, if any.
3. **Investigators:** Potential conflicts must be disclosed to study participants. Authors must clearly state whether they have done so in the manuscript.
4. **Related to project support:** Authors should describe the role of the study sponsor, if any, in study design; collection, analysis, and interpretation of data; writing the report; and the decision to submit the report for publication. If the supporting source had no such involvement, the authors should so state.

PROTECTION OF HUMAN SUBJECTS AND ANIMALS IN RESEARCH

When reporting experiments on human subjects, authors must indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. If doubt exists whether the research was conducted in accordance with the Helsinki Declaration, the authors must explain the rationale for their approach and demonstrate that the institutional review body explicitly approved the doubtful aspects of the study. When reporting experiments on animals, authors should indicate whether the institutional and national guide for the care and use of laboratory animals was followed.

INFORMED CONSENT

Identifying information, including names, initials, or hospital numbers, should not be published in written descriptions, photographs, or pedigrees unless the information is essential for scientific purposes and the patient (or parent or guardian) gives written informed consent for publication. Informed consent for this purpose requires that an identifiable patient be shown the manuscript to be published. Authors should disclose to these patients whether any potential identifiable material might be available via the Internet as well as in print after publication. Patient consent should be written and archived, either with the *Journal*, the authors, or both, as dictated by local regulations or laws.

GUIDELINES FOR MANUSCRIPT SUBMISSIONS

1. Articles should be submitted in digital format (preferably an MS Word document on CD or floppy disk) with one printed copy of the manuscript. Ideally, a manuscript should be no longer than 24 double-spaced pages. However, exceptions will always be considered on a case-by-case basis.
2. The *American Medical Association Manual of Style* governs formatting in the preparation of text and references. All articles should conform to those guidelines as closely as possible. Abbreviations/acronyms should be limited as much as possible. Inclusion of a list of article acronyms and abbreviations can be very helpful in the review process and is strongly encouraged.
3. A complete list of references cited in the article <u>must</u> be provided with the manuscript, with the following required data:
   - Reference citations of published articles must include the authors' surnames and initials, article title, publication title, year of publication, volume, and page numbers.
   - Reference citations of books must include the authors' surnames and initials, book title, volume and/or edition if appropriate, place of publication, publisher, year of copyright, and specific page numbers if cited.
   - Reference citations for presentations, unpublished papers, conferences, symposia, etc, must include as much identifying information as possible (location, dates, presenters, sponsors, titles).
4. Either color or black and white photographs may be submitted with the manuscript. Color produces the best print reproduction quality, but please avoid excessive use of multiple colors and shading. Digital graphic formats (JPG, GIF, BMP) and MS Word photo files are preferred. Prints of photographs are acceptable. Please do not send photos embedded in PowerPoint. Images submitted on slides, negatives, or copies of X-ray film will not be published. For clarity, please mark the top of each photographic print on the back. Tape captions to the back of photos or submit them on a separate sheet. Ensure captions and photos are indexed to each other. Clearly indicate the desired position of each photo within the manuscript.
5. The authors' names, ranks or academic/certification credentials, titles or positions, current unit of assignment, and contact information <u>must</u> be included on the title page of the manuscript.
6. Submit manuscripts to:

EDITOR, AMEDD JOURNAL
AHS CDD BLDG 4011
2377 GREELEY RD STE T
FORT SAM HOUSTON, TX 78234-7584

DSN 471-6301
Comm 210-221-6301
Email: amedd.journal@amedd.army.mil